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## ANNOTATED LIST OF THE BIRDS OF LEYTE ISLAND, PHILIPPINES

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### INTRODUCTION

Until relatively recently, the Philippine island of Leyte was, ornithologically speaking, perhaps the least known major island of the archipelago. Few large collections of birds had been made on the island, and those in the National Museum of the Philippines had been destroyed during the battle for Manila in 1945. Through the kindness of Dr. Douglas A. James of the University of Arkansas, Carnegie Museum acquired by exchange in 1959, with the consent of the collector, a small collection of Leyte birds assembled in 1945 by Mr. T. H. Holder while in military service. Just as I was preparing to study this collection, which contained several new records for the island, the American Museum of Natural History received a large shipment of Leyte birds collected in 1961 by G. Alcasid and M. Celestino. I was invited by Dr. Dean Amadon to study this important collection, half of which was to be returned to the National Museum of the Philippines, cosponsor of the expedition. As no attempt had been made for many years to write a complete list of the birds known from Leyte, I extended my study to include all available specimens and published records from the island. Revisionary work was often necessary to verify the taxonomic status of Leyte forms.

### Acknowledgments

My study of the avifauna of Leyte has been only a part of broader taxonomic and distributional studies of Philippine birds. It is impossible to separate out those institutions at which specimens were studied or from which specimens were borrowed specifically for the Leyte project. The reader is therefore referred to a recent paper (Parkes, 1971c) in this series, in which I listed *all* institutions whose collections I have utilized in working on Philippine birds. I am especially indebted to Dean Amadon, who first suggested that I write a list of Leyte birds and turned the AMNH material over to me for study; to S. Dillon Ripley, who permitted

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me to study Leyte material at the USNM that he had originally intended to report on himself; to Emmet R. Blake and Melvin A. Traylor for access to a large unstudied Leyte collection at the FMNH; and to John E. duPont, who has been helpful in many ways in readying this study for publication. I am indebted to T. H. Holder and Douglas A. James for arranging transfer of Mr. Holder's Leyte collection to Carnegie Museum. Among the other individuals who have been especially helpful during the course of this study are I. C. J. Galbraith, Derek Goodwin, Mary LeCroy, D. S. Rabor, Austin L. Rand, Neal G. Smith, the late L. L. Snyder, and Richard L. Zusi. A grant from the Frank M. Chapman Memorial Fund of the AMNH covered my expenses for several trips to New York, and trips to Chicago and Washington were made possible through a gift from John E. duPont.

### Abbreviations

Institutions for which abbreviations are used in this paper are as follows:

AMNH	American Museum of Natural History
ANSP	Academy of Natural Sciences of Philadelphia
BMNH	British Museum (Natural History)
CM	Carnegie Museum
CU	Cornell University
DMNH	Delaware Museum of Natural History
FMNH	Field Museum of Natural History
LSU	Museum of Zoology, Louisiana State University
MAPS	Migratory Animal Pathological Survey
PNM	Philippine National Museum
UMMZ	Museum of Zoology, University of Michigan
USNM	United States National Museum of Natural History
YPM	Peabody Museum of Natural History, Yale University

### ZOOGEOGRAPHY OF LEYTE

The island of Leyte, eighth largest in the archipelago, lies in the eastern part of the Visayan group in the central Philippine Islands. Its extreme dimensions are 121 miles from northwest to southeast and 52 miles from northeast to southwest, with a total area (exclusive of satellite islands) of 3872 square miles. Its terrain is rugged and mountainous, with several distinct cordilleras running approximately parallel to the NW-SE axis of the island. The only extensive lowland area is the Leyte Valley in the northeastern part of the island, once a shallow extension of Leyte Gulf. Additional descriptions of Leyte can be found in Bureau of Insular Affairs (1902:590-597) and Wernstedt and Spencer (1967:454-468).



The avifaunal relationships of Leyte lie with the adjacent major island of Samar to the northeast and, to a slightly lesser extent, with Bohol to the southwest. McGregor (1920) reviewed earlier analyses of avifaunal relationships within the Philippines and confirmed the distinctiveness of the Samar-Leyte-Bohol group. Using the most recent list of Philippine birds (duPont, 1971) as a guide, we see that 19 subspecies are found on Samar, Leyte, and Bohol but not elsewhere (except for satellite islands):

*Loriculus philippensis worcesteri*  
*Centropus melanops bankeni*\*  
*Harpactes ardens liniae*  
*Ceyx argentatus flumenicola*  
*Penelopides panini samarensis*  
*Buceros hydrocorax semigaleatus*  
*Dryocopus javensis pectoralis*  
*Dendrocopos maculatus leytenis*  
*Chrysocolaptes lucidus rufopunctatus*  
*Eurylaimus steerii samarensis*  
*Pitta steerii coelestis*  
*Coracina striata boholensis*  
*Coracina morio riplei*  
*Dicrurus hottentottus samarensis*  
*Pycnonotus urostictus atricaudatus*  
*Irena cyanogaster ellae*†  
*Orthotomus nigriceps samarensis*  
*Prionochilus olivaceus samarensis*  
*Zosterops everetti boholensis*

Eight species have an endemic Samar/Leyte subspecies but, according to the list published by Rand and Rabor (1960), have not yet been collected on Bohol:

*Gallicolumba criniger*‡ *leytenis*  
*Ceyx melanurus samarensis*  
*Megalaima haemacephala celestinoi*  
*Pericrocotus flammeus leytenis*  
*Sitta frontalis lilacea*  
*Stachyris plateni pygmaea*  
*Ficedula basilanica samarensis*  
*Arachnothera clarae philippinensis*

\* Not recognized by duPont, but see Parkes, 1971c:13-14.

† Bohol record of Rand and Rabor (1960) overlooked by duPont.

‡ *luzonica* of duPont; see Parkes, 1962b:2-3.

The somewhat more distant position of Bohol is reflected not only in the preceding list (some species of which will probably eventually be found on Bohol), but in the moderate degree of endemism on Bohol itself. Two species have an endemic Samar/Leyte race and an endemic Bohol race:

<u>Samar/Leyte</u>	<u>Bohol</u>
<i>Ptilocichla mindanensis minuta</i>	<i>P. m. fortichi</i>
<i>Stachyris capitalis nigrocapitata</i>	<i>S. c. boholensis</i>

In three additional species, the Bohol race differs from that on Samar and Leyte, but the latter extends south into Mindanao:

<u>Samar/Leyte/Mindanao</u>	<u>Bohol</u>
<i>Rhinomyias ruficauda samarensis</i>	<i>R. r. boholensis</i>
<i>Pachycephala philippinensis apoensis</i>	<i>P. p. boholensis</i>
<i>Aethopyga pulcherrima pulcherrima</i>	<i>A. p. decorosa</i>

Endemism on Samar and Leyte as individual islands is almost negligible, as might be expected in view of their proximity. Only one species has an endemic Samar subspecies and no representative on Leyte: *Dicaeum ignipectus bonga*. A juvenile from Leyte was attributed to this species by Meyer de Schauensee and duPont (1962:169), but the specimen (which I have examined) is actually *Dicaeum pygmaeum*. Conversely, only one species has an endemic Leyte subspecies and no representative on Samar: *Micromacronus leytensis leytensis*. Only two species are represented by separate Samar and Leyte endemic subspecies (with additional subspecies on other islands, but absent from Bohol):

<u>Samar</u>	<u>Leyte</u>
<i>Bolbopsittacus lunulatus callainipictus</i>	<i>B. l. intermedius</i>
<i>Rhabdornis inornatus inornatus</i>	<i>R. i. new subspecies</i> (described beyond)

Although the island of Cebu lies close to both Bohol and Leyte, its avifauna is quite distinct (McGregor, 1920). In only one species does the Leyte population resemble that of Cebu more closely than that of Samar, namely *Megalurus timoriensis*, in which specimens from Cebu, Bohol, and Leyte are assignable to the subspecies *alopex*, whereas Samar specimens represent intermediates between *alopex* and *tweeddalei* of Luzon to the north (Parkes, 1970).

By modern taxonomic standards, no full species of bird is endemic to the island of Leyte. At the time of its description by Amadon (1962a), *Micromacronus leytensis* was thought to be both a genus and species endemic to Leyte, but this status was revised by the discovery on Mindanao of *M. l. sordidus* Ripley and Rabor (1968).

That additional species will undoubtedly be found on Leyte is indicated by the fact that no less than 14 of the land or freshwater Philippine

resident species whose ranges are characterized by duPont (1971) as "throughout the Philippines" have not yet been recorded from Leyte. This is even more true of migrants; such widely distributed migrant species as *Accipiter gularis*, *Motacilla flava*, and *Erithacus calliope* have not yet been taken on Leyte. This is largely a function of the fact that the largest collections of Leyte birds have been made during the (northern) summer months.

Zoogeographic analyses of the avifaunas of Samar and Bohol, now somewhat obsolete because of subsequent work, were published by Rand and Rabor (1960). The format of the present paper is adapted from theirs.

### HISTORY OF LEYTE ORNITHOLOGY

The ornithological history of the Philippines presented by Hachisuka (1931) does not mention Leyte as part of the itinerary of any collector prior to 1877. In that year the well-known collector A. H. Everett obtained specimens of 68 species in the vicinity of Amparo, in the southwesternmost part of the island. These were listed by Tweeddale (1878) and are now (except for specimens removed by exchange) in the BMNH.

The next collection of Leyte birds was made by the Steere Expedition, which visited the island in April 1888. The species collected are listed by Steere (1890), but neither the localities visited nor the number collected of each species is mentioned. It is obvious that the habitats visited by Everett and Steere were quite different. The Steere Expedition collected only 48 species in Leyte, but 27 of these had not been taken by Everett. On the other hand, Everett's collection, having been made on or near the coast in late summer and fall, contained an excellent representation of waders and other water birds, virtually absent in the Steere collection. The specimens taken by the Steere Expedition were said by Hachisuka (1931:28) to be "kept in Michigan and Chicago respectively," but they have in fact been widely scattered; nearly 300, for example, including some of the Leyte skins, are housed in the Denver (Colorado) Museum of Natural History. Most of the types are in the BMNH.

Between the years 1887 and 1896, some of the most important collections of Philippine birds were made by John Whitehead. The last island on which he worked was Leyte, which he reached on July 27, 1896. He remained for about three weeks, camping at an elevation of about 1000 feet at the foot of the mountains somewhere in the northwestern part of the island; his collecting locality is nowhere stated but is shown approximately on his map (Whitehead, 1899:83). He was frustrated in his attempts to reach higher elevations by the poor condition of roads and trails. Although Whitehead, who died at 38 of a fever during an expedition to Hainan in 1899, was an excellent field naturalist for his time, the

contemporary professional collector's desire for "perfect" specimens is illustrated by his remark about *Irena cyanogaster* on Leyte (Whitehead, 1899:216): "... unfortunately during the time of our visit all birds were in full moult and quite useless." Whitehead's Samar and Leyte collections were reported in a paper by Ogilvie-Grant (1897), and Leyte notes are also included in the collector's own general paper on his Philippine expeditions (Whitehead, 1899). The wording is sometimes ambiguous in these reports, but the total number of species collected appears to have been 58, with six additional species mentioned of which no specimens were preserved. Most of Whitehead's birds went to the Rothschild Collection, now at the AMNH.

The next collector to visit Leyte was Dr. Paul Bartsch of the Smithsonian Institution. The U. S. Bureau of Fisheries steamer *Albatross* called at Tacloban on April 11, 1908 and at Port Dupon (near the present town of Isabel) on May 7, 1908. Ten specimens (representing nine species) were collected by Bartsch and are now in the USNM. His specimen of *Elanus caeruleus* remains the only one known from Leyte. A list of all the birds collected on this expedition of the *Albatross* was published by Mearns (1909b).

McGregor (1909) listed every island from which every form (all listed as full species) had been collected in the Philippines, together with the names of the collectors. Insofar as Leyte is concerned, he overlooked three species collected by Everett (*Actitis hypoleucos*, *Nectarinia sperata*, *Corvus macrorhynchos*), three collected by Steere (*Lanius cristatus*, *Pycnonotus goiavier*, *Prionochilus olivaceus*), and one collected by Whitehead (*Ducula aenea*). The first part of McGregor's "Manual" appeared prior to the paper by Mearns (1909b), but the second part includes the Bartsch records; those referring to species covered by the first part are given in an addendum.

Hachisuka (1931:48) mentions Leyte as one of the islands represented in a collection made in 1909 and 1910 by J. J. Mounsey, then in the Fleming collection, now in the Royal Ontario Museum, Toronto. As I have already shown (Parkes, 1965a), the alleged Leyte specimens were actually from the small island of Buad, which is faunally part of Samar.

There is a long hiatus in the history of Leyte ornithology after the *Albatross* expedition. In 1932 some birds were collected at Palo for parasitological studies at the Philippine Bureau of Science, Manila. No list of these was published *per se*, but five species from Palo are mentioned as hosts of tapeworms by Tubangui and Masilungan (1937). One of these (*Butastur indicus*) had not previously been collected on Leyte. In the species accounts that follow, these are credited to Celestino, the collector.

The last collection from Leyte prior to World War II was made in May 1937 by D. S. Rabor. He was based at Helosig Barrio (shown as Hil-



osig on some maps), about midway between Baybay on the west coast and Abuyog on the east coast. Collections were made at various localities along the road connecting these two towns, at altitudes between 750 and 1250 meters. In all, 257 specimens of 77 forms were taken, and eight additional species were seen but not collected. Of these, 17 of the collected species and three of the sight records were said by Rabor (1938) in his report on this expedition to be first records for Leyte. One of these was listed in error, as Rabor overlooked Everett's record of *Actitis hypoleucos* (Tweeddale, 1878:345). Rabor's collection was deposited in the Philippine Bureau of Science (later the National Museum of the Philippines), which was destroyed in the battle for Manila in 1945. Several species have not been collected on Leyte except by Rabor in 1937 (*Pernis apivorus*, *Cuculus sparverioides*, *Cuculus canorus*, *Eurostopodus macrotis*), so the loss of his collection means that no Leyte specimens now exist of these species. Records from this expedition are listed in the species accounts as "Rabor 1937" to distinguish them from those made by the same collector in 1964; "Rabor (1938)" refers to the *published* account of the expedition.

A number of American servicemen observed or collected birds on Leyte just after the end of World War II. Lint and Stott (1948) published notes on their observations that modified or supplemented information in Delacour and Mayr (1946). Information is given on nine Leyte species. Six specimens collected from September–December 1945 by the late Stephen T. Bivins are now in the collection of Cornell University. Mr. T. H. Holder donated a collection of 38 skins taken in Leyte to his alma mater, the University of Arkansas. These were exchanged to Carnegie Museum, and Mr. Holder also gave the latter institution an additional 32 Leyte specimens. A few of these have been subsequently exchanged to other institutions, as noted in the species accounts that follow.

I know of a few additional Leyte specimens collected by servicemen: two collected by Richard P. Grossenheider in the AMNH and one collected by Kenneth W. Prescott in the UMMZ. Although I have visited most of the major and several of the smaller museum collections in North America, and believe that I have recorded all Leyte specimens in these institutions, and have received negative reports on the presence of Leyte material through correspondence with several curators, it is more than likely that additional specimens from Leyte found their way into small collections after World War II. I would appreciate being informed of any such material.

In 1961 the first large postwar collection, perhaps the most important ever taken on Leyte, was made by G. L. Alcasid and M. Celestino of the National Museum of the Philippines. The chief collecting locality was



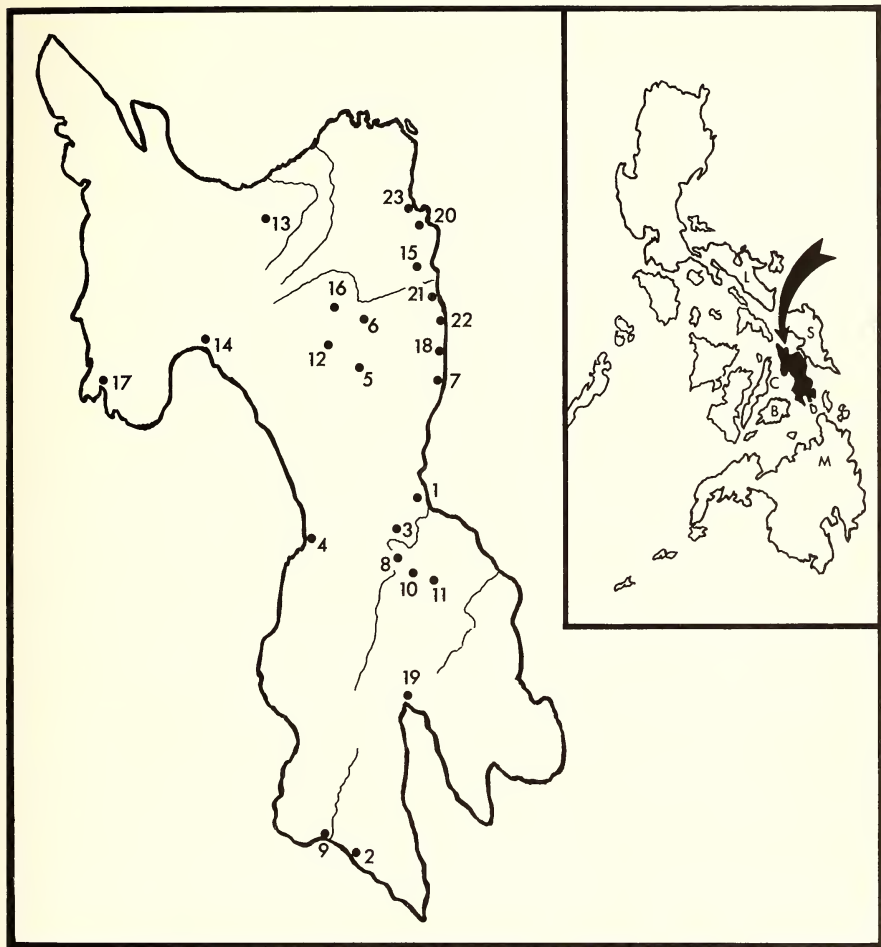
Barrio Patok, Dagami, in the Mount Lobi area. This area was described by Alcasid (letter to Amadon of November 7, 1961) as follows:

The immediate vicinity of Patok is cultivated, mostly planted to abaca and coconuts. But, in the vicinity of the 1,000 foot level the forests still persist, but broken in many places by clearings made after the loggers are through getting the large trees. Actually logging is going on in the deeper forest region to an elevation of about 2,000 feet. Most of our collecting was done in this area although we made sorties to reach the summit [= 4,426 feet]. Our camp and main collecting ground is about five miles from Patok on the NE shoulder of Mt. Lobi at about 1,200 feet. The clearings are just newly cut with stumps and fallen trees waiting to be burned at the height of the dry season, in this case September.

The other locality represented in the Alcasid-Celestino collection is Balinasayao (see map). Although no water birds whatsoever are included in this collection, no less than 82 species are represented, of which 12 were new to Leyte. Among these was the startling new genus of babblers *Micromacronus*. After my studies of this collection were completed in New York, half of the specimens were returned to Manila. For the sake of brevity in the text that follows, the year (1961) is usually omitted in citing the dates of Alcasid-Celestino specimens.

In July and August 1961, collections were made for the DMNH on five islands of the Philippines. The collector on Leyte was Onofre M. Caliwag, and the localities visited are given as Mount Lobi, nearby Dagami village, and Abuyog, on the east coast. A list of the species collected was published by Meyer de Schauensee and duPont (1962). These authors stated that 14 of the 62 species listed were new to Leyte. Three of these are also represented in the contemporaneous Alcasid-Celestino collection. Eight others had already been reported in the literature from Leyte, but these records were overlooked by Meyer de Schauensee and duPont. One species was misidentified; as mentioned before, the alleged first Leyte specimen of *Dicaeum ignipectus* is actually *D. pygmaeum*, which was already known from Leyte. Of two species, Caliwag's specimens are the first and only Leyte records to date: *Amaurornis phoenicurus* and *Treron vernans*. Most of the Caliwag collection is in the DMNH, but some specimens were donated by John E. duPont to the ANSP.

In May–July 1964, D. S. Rabor and associates made a large collection on Leyte. Of the 110 species represented in this collection, seven were new to Leyte. However, all except two of these were migrants; Rabor's expedition began its field work early enough in May so that numbers of northern migrants were still present, whereas most Leyte collections have been made during the summer. The two nonmigrant species new to Leyte collected by Rabor are the introduced *Passer montanus* and the widely distributed *Collocalia esculenta*. Of more interest is the fact that four of



**Leyte Island:** Principal localities mentioned in text. 1, Abuyog. 2, Amparo. 3, Balinsasayao. 4, Baybay. 5, Burauen (including San Pablo). 6, Dagami. 7, Dulag. 8, Helosig. 9, Maasin. 10, Mahaplag. 11, Mount Kabalanti-an (approximate). 12, Mount Lobi (approximate). 13, "North Leyte" (Whitehead; approximate). 14, Ormoc City. 15, Palo. 16, Patok. 17, Port Dupon (Isabel). 18, San Roque. 19, Sogod. 20, Tacloban. 21, Tanauan. 22, Telegrafo, Tolosa. 23, Tigbao. **Inset:** Position of Leyte among Philippine Islands. Adjacent islands: B = Bohol. C = Cebu. L = Luzon. M = Mindanao. S = Samar. Map prepared by James Senior.

the species that had been represented only in Rabor's lost 1937 collection, not found by later collectors, were taken again by Rabor in 1964, thus providing voucher specimens for Leyte. Most of this collection was divided between the FMNH and the USNM; 20 of the 1964 specimens are now at the DMNH and four at the UMMZ. According to Dr. Rabor, a few specimens were deposited at Silliman University, Dumaguete City, Negros, Philippines. No list of these is available, but all are essentially duplicates of material now in museums in the United States. The present location of individual specimens I have examined is duly noted in the text that follows. I made detailed studies of the FMNH component in March 1973, after which most of the present manuscript was completed in first draft. The material in the USNM was examined and listed during a brief visit to Washington in April 1973, but detailed study was, with a few exceptions, not possible. In listing collectors in the species accounts, reference will be made to "Rabor 1937" for the lost collection and "Rabor 1964" for the composite recent collection. The text should make it clear how the collection was divided among the several museums previously listed.

Between 1964 and 1971, the Migratory Animal Pathology Survey (MAPS) of the U. S. Army Research and Development Group, Far East, sponsored bird-banding programs in 240 localities in 20 Asian countries, including the Philippines, under the general supervision of Dr. H. Elliott McClure. Results of this immense project have been summarized in annual reports and in a total list of birds banded (McClure and Leelavit, 1972). I am indebted to Dr. McClure for copies of these reports. Birds that were banded in or recovered from Leyte, and that are mentioned in the reports, are so indicated in the species accounts later in this paper. A full list of all banding recoveries from this project has not yet been published.

I have not visited Leyte myself, and the present paper does not pretend to be more than a list of the species and subspecies of birds recorded from the island, with (mostly taxonomic) annotations. At my request, therefore, Dr. Rabor prepared a brief description of his 1964 expedition, with emphasis on the habitats visited. His report, which I have very slightly shortened and edited, is as follows:

#### SILLIMAN UNIVERSITY BIOLOGICAL EXPEDITION TO LEYTE, APRIL-JULY 1964

BY D. S. RABOR

From the last week of April until the middle of July 1964, a biological expedition from Silliman University, Dumaguete City, headed by this writer [Rabor], worked on Leyte Island and collected mammals, birds, reptiles, and amphibians, and the arthropod parasites on them. I also collected field data

on the general habits, breeding habits, altitudinal and ecological distribution, and status of conservation of the terrestrial vertebrates in the localities visited. For the duration of the project, the expedition party of 25 regular members and 10 to 12 emergency and casual helpers was divided into three smaller groups, which operated simultaneously in different collecting places in the region being worked in at the time.

Collections and field observations were conducted mainly in the vicinity of Mount Lobi, in the interior region of the Municipality of Burauen, in the north-central part of Leyte. Actual collecting activities started during the first week of May, although the expedition party was already in the area during the last few days of April, making surveys for the best site for the main camp. Work was carried on in these localities until the first week of June. Collecting and field observations were conducted in as many habitat types as were accessible in this region of Leyte, at elevations ranging between 300 and 1000 meters above sea level.

In the second week of June, the expedition party transferred to the south-central region of Leyte, in the vicinity of the Municipality of Mahaplag. Collections and field observations were conducted mainly in the hilly and mountainous interior between the town of Mahaplag and the distant mountains east of it, especially in the vicinity of Paniniklan in the general area of Mount Kabalanti-an, at elevations between 300 and 800 meters above sea level.

The Leyte Island expedition project was supported mainly by the following institutions:

1. U.S. Army Medical Research and Development Command, Office of the Surgeon General, Washington, D. C. (in connection with arbovirus studies in the Philippines);
2. Smithsonian Institution, Washington, D. C.;
3. Field Museum of Natural History, Chicago, Illinois; and
4. Silliman University, Dumaguete City, Philippines.

#### DESCRIPTIONS OF COLLECTING LOCALITIES

**Mount Lobi localities (300–1000 meters).** This region in north-central Leyte is predominantly hilly and mountainous. Collecting and field studies began in the immediate vicinities of Barrio Tambis and Barrio Buri, including the localities of Ma-alngon and Pana-on Peak, all in the interior of Burauen Municipality. Field work was then extended into the more interior sitios and other unnamed sites among the hills and mountains of the region. The work was directed toward the prominent peaks and ridges of Mount Lobi and nearby peaks, but we discovered that Mount Lobi itself was very difficult to reach from our area. We were unable to collect on the ridges and main peak of Mount Lobi, although collecting and field observations were carried on extensively on some of the ridges and peaks that were accessible to our parties.

The interior localities that were accessible from Barrio Tambis and Barrio Buri were well cultivated in many places, and there were already a number of well-developed farms, especially in rolling country and on the low hills. On the slopes of the lower mountains there were a good number of cleared areas, which were maintained by the people who lived in the nearest barrios or sitios as "Kaingin" farms or slash-burn clearings. The small valleys and the narrow strips of flatland among the hills were all cultivated, although still surrounded by large tracts of mixed second growth and



grasslands. Even the gentler slopes of the higher mountains in the area were beginning to be cleared up to elevations of about 500 meters above sea level. The ridges and summits of the mountains were still covered by good tracts of original dipterocarp forest and transition dipterocarp-mid-mountain forest.

Many Kaingin or slash-burn clearings were abandoned for new areas, and these places were already covered with patches of dense second growth mixed with tall grass. A great part of the cleared areas in rolling country and on the hills was already covered with the parang type of vegetation—mixed patches of second growth and grasslands consisting mostly of tall grass species, largely Kogon grass (*Imperata exaltata* Brongn. and *I. cylindrica* [Linné] Beauv.) and Talahib (*Saccharum spontaneum* var. *indicum* Hack.). On the hills and lower parts of the mountain slopes that were already cleared but abandoned permanently or temporarily for other sites, good-sized areas of secondary forest had already developed. From the higher elevations of the mountains, including their ridges and summits, larger tracts of original dipterocarp forest extended down to the lower elevations, following the courses of the mountain streams and ravines and appearing as tongues of dense primary forest growth.

As a whole, the interior localities of the Mount Lobi Range where we worked were a mixture of cultivated fields, cleared hills, parang country, secondary forest, primary dipterocarp forest, and small areas of mixed or transition dipterocarp-mid-mountain forests, the latter found only at the highest elevations on the mountain peaks.

**Mount Kabalanti-an localities (300–800 meters).** Collections were carried on mainly in the hilly and mountainous region between the large river that flowed close to the town of Mahaplag and the distant mountain range toward the eastern coast of Leyte. Collecting started in the flatlands along the river and extended into the interior in the direction of the east coast. The field work was conducted in the localities of Paniniklan, Santa Cruz, Malinao, and on Bulog Peak. In addition, many other localities whose names were not certain, but all on the western part of the Mount Kabalanti-an Range, on the way toward the east, were also visited.

The area along the river near Mahaplag and into the interior for about 1 kilometer was well cultivated into regular farms, planted to corn, rice, and other food crops. Deeper in the interior toward Mount Kabalanti-an was mixed rolling country, hills, and mountains estimated to be about 400–600 meters above sea level. In the area of rolling country were quite a number of settlers maintaining regular farms. Farther still into the interior, among the hills and low mountains, the hillsides and lower parts of the mountainsides were already cleared in many places. Closer to the higher elevations of Mount Kabalanti-an the mountainsides were partly cleared, and many areas were covered with second growth forest and parang vegetation. On the ridges and on the summits of the higher peaks there were still good tracts of original dipterocarp forest. The vegetation types found on Mount Kabalanti-an and surrounding localities were similar to those of the Mount Lobi region.

Both collecting regions in the north-central and south-central parts of Leyte were well on the way to being badly deforested in 1964. I had had the opportunity to conduct collecting and field studies of birds and mammals in central Leyte, in the regions between Baybay and Abuyog municipalities in April–May 1937. In this expedition I also had the opportunity to survey



portions of the Mount Lobi and Mahaplag areas. At that time, the entire interior regions of both the Mount Lobi and Mahaplag areas, even in the lowlands, were predominantly original dipterocarp forests, which were only beginning to be logged. The logging and excessive clearing of the original vegetation to make room for farms was chiefly along the newly completed Baybay-Abuyog road, which cut across the island from east to west. This road ran a little south of an imaginary strictly east-west line from coast to coast in the middle of the island. In 1937 there were very few well-cultivated farms along this road, especially in the Helosig region close to the middle of the island. In 1964, along the sides of this same road, and for several kilometers into the interior in both directions, were already well-cultivated farms and numerous permanent human settlements, mostly large barrios. As in other parts of the Philippines, regions formerly covered with extensive tracts of original dipterocarp forest in 1937 had, by 1964, become farms, coconut groves, abaca plantations, and permanently inhabited settlements.

## INTRODUCTION TO SPECIES LIST

As mentioned in the acknowledgments of *Philippine Birds* (duPont, 1971: viii), my unpublished notes were made available to Dr. duPont for use in his book. Several species are thus credited to Leyte in the book that have not otherwise been recorded from that island in print. The published and previously unpublished records in the present paper serve as documentation for all Leyte records in *Philippine Birds*; a few records that do not appear in the book are included in this paper, chiefly those in the Rabor 1964 collection, which I did not study until after duPont's book was published. For convenience, nomenclature and sequence of species in this paper generally follow those in *Philippine Birds*; differences are mentioned and explained in the appropriate species account. I have followed duPont's family sequence simply for convenience of cross-reference, although I prefer alternative placement of several passerine families. In general, I find the sequence of passerine families of Storer (1971) an acceptable compromise among competing published classifications. A faunal list such as the present paper is not the place for extended discussions of family sequences.

For each form recorded from Leyte, the scientific name with author and date is given; full bibliographic citations to names can be found in duPont (1971), including those for some names accepted here but synonymized by duPont. For a few names that do not appear in duPont's book, full bibliographic citations are given herein. The minimal information given for each form is a list of the collectors who have taken it (or persons who have seen it) on Leyte. In many instances taxonomic discussions are presented, and a few species have additional information (breeding, habitat, corrections to literature).

## SPECIES ACCOUNTS

## FAMILY ARDEIDAE HERONS

*Ixobrychus cinnamomeus* (Gmelin, 1789)

Collected by Everett.

*Gorsachius goisagi* (Temminck, 1835)

An adult ♂ was collected by Holder at Tigbao (a few miles northwest of Tacloban) on November 11, 1945. This is the first record for Leyte. According to the label, this heron was taken "high on mt. in jungle."

*Butorides striatus javanicus* (Horsfield, 1821)

Everett collected two specimens of this species, an adult ♂ in July and an immature in September. The July specimen most probably belongs to the resident race rather than to the migrant *amurensis*; the September bird is placed here conjecturally. The only other Leyte specimen was taken by Holder at the Tacloban airstrip on December 1, 1945 and is definitely referable to *javanicus*. It should be noted that duPont (1971, 1972a, 1972b) and duPont and Rabor (1973) inadvertently spelled the name of this subspecies as "*javensis*."

*Bubulcus ibis coromandus* (Boddaert, 1783)

I know of no Leyte specimen of the ubiquitous Cattle Egret. One individual banded at Wan-fu, I-lan, Taiwan (24°45' N., 121°40' E.) on June 25, 1965 was recovered at Dulag, Leyte, on March 16, 1966 (McClure, [1967]:124).

*Egretta garzetta garzetta* (Linné, 1766)

*Ardea Garzetta* Linné, Syst. Nat., ed. 12, 1, 1766:237 ("in Oriente," restricted to Malalbergo, S.E. Italy, by Grant and Mackworth-Præd [1933]).

There is inconsistency in the literature as to which race of Little Egret occurs in the Philippines. Recent handbooks, including Delacour and Mayr (1946) and duPont (1971), have followed Peters (1931) in assigning Philippine birds to *E. g. nigripes* (Temminck, 1840), described from the Sunda Islands. I have examined the same material in the AMNH seen by Amadon and Woolfenden (1952) and agree with them that true *nigripes* does not occur in the Philippines. In that race, as the name suggests, the toes are black and concolorous with the legs, whereas in *E. g. garzetta* the toes are yellow, contrasting with the legs. Banding recoveries have clearly shown that Little Egrets from Japan, which are consistently assigned to *E. g. garzetta* in the literature, winter commonly or even chiefly in the Philippines (McClure, 1968:126). The nominate race should therefore be added to the list of Philippine birds, and *E. g.*

*nigripes* deleted. The *resident* Philippine Little Egrets almost certainly belong to a third subspecies, which may be undescribed. The feet of breeding specimens have been described as greenish yellow, with black spots on the toes (Tweeddale, 1877:703; McGregor, 1909:167). This is consistent with a few museum specimens I have seen whose dried feet suggest that they were probably much duller in color in life than those of true *E. g. garzetta*.

This species has been collected on Leyte only by Everett and Holder. The latter took an adult ♂ 1 mile west of Palo on November 18, 1945 and another at the Tacloban airstrip on November 27. Both specimens are beginning their prebasic molt; in the first bird, one of the crown plumes of the alternate plumage is present as a worn stump 26 mm. long. I cannot separate either of these specimens from a European series of *E. g. garzetta*.

***Egretta intermedia intermedia* (Wagler, 1829)**

I know of no Leyte specimen of this egret. One individual banded at the Shinhama Refuge, Ishikawa, Chiba, Japan (35°40' N., 139°55' E.) on June 23, 1964 was recovered at "Oromoc" [*sic* = Ormoc] City, Leyte, on December 12, 1965 (McClure, [1967]:125).

***Ardea purpurea manilenis* Meyen, 1834**

Collected by Steere.

***Nycticorax caledonicus manillensis* Vigors, 1831**

Collected by Everett.

FAMILY CICONIIDAE STORKS

***Ciconia episcopus episcopus* (Boddaert, 1783)**

Collected by Everett.

FAMILY ANATIDAE DUCKS

***Dendrocygna arcuata arcuata* (Horsfield, 1824)**

Collected by Everett.

FAMILY ACCIPITRIDAE HAWKS AND EAGLES

***Pernis apivorus philippensis* Mayr, 1939**

Collected only by Rabor 1937; no Leyte specimen now known to me.

***Elanus caeruleus hypoleucus* Gould, 1859**

Collected by Bartsch.

***Haliastur indus intermedius* Blyth, 1865**

Collected by Everett, Rabor 1937, Holder, and Rabor 1964. The Holder collection contains four adults and two immatures of this species.

All were taken in the general vicinity of Tacloban between mid-September and the end of November 1945, but only one adult, taken November 20 at the Tacloban airstrip, has exact data. One of the other adults is now at LSU. Rabor collected an adult ♂ at Tambis on May 4, 1964 (USNM).

***Spilornis holospilus holospilus* (Vigors, 1830)**

Collected by Everett, Holder, and Rabor 1964. DuPont (1971:42) uses a binomial for this species, synonymizing with *holospilus* both *panayensis* Steere, 1890 and *palawanensis* Sclater, 1919. I have not investigated the latter, but it should be pointed out that both Peters (1931:273) and Brown and Amadon (1968:361) recognize *palawanensis* as a valid race not of *holospilus* but of the closely related species *Spilornis cheela* (see also Rand, 1951a:576). Brown and Amadon do not even mention *panayensis*, but specimens I have examined uphold its validity as a small, pale race. I suspect that the range of wing measurements given by Brown and Amadon for the species *S. holospilus*, 332–338 mm. (not separated by sex), must be a typographical error. Measurements published by Rand (1951a) for various populations range from 299 to 386 mm. The wing lengths of specimens I have measured and that were not seen by Rand verify his separation of *panayensis* and *holospilus*. Weights published by Rand and Rabor (1960) suggest that the size difference may be even more significant than is indicated by wing length. For *holospilus* these authors gave weights of ♂ 602.8, 762 gm.; ♀ 691.4 gm.; sex? 680.5 gm. For *panayensis* they gave ♂ 522 gm.; ♀ 484.5, 564 gm.

Holder's specimen, an adult female, was collected 1 mile west of Palo, November 18, 1945. Rabor collected seven adults in the Mount Lobi area from May 2–28 (5 USNM, 2 FMNH) and an adult male on June 12 and an unsexed juvenile on June 27 in the Mount Kabalanti-an area (USNM). The June 12 adult, from Santa Cruz, is exceptionally small (wing 327 mm. versus 344–354 for four other Leyte males) and has pale underparts. All other Leyte specimens have the dark underparts typical of *S. h. holospilus*. Rand (1951a) mentioned occasional pale *panayensis*-like individuals in populations of *holospilus* on Mindanao. In view of the small size as well as the pale color, the possibility must be considered that this bird was in fact a stray from the range of *panayensis*, a distance easily within the flight range of a large bird of prey.

***Circus aeruginosus spilonotus* Kaup, 1847**

No specimens. Lint and Stott (1948:42–43) published a sight record of a Marsh Harrier attacking and killing a Philippine Cockatoo (*Kakatoe haematuropygia*) at the San Pablo airstrip, Leyte, on March 2, 1946.

Brown and Amadon (1968:382) give an excellent description of this harrier. Delacour and Mayr (1946:49) erroneously describe the male as having a "black" head (instead of white with dark streaks). DuPont's



(1971:42) description is confined to the adult male, but as Delacour and Mayr correctly state, females and immatures are very different. Also, duPont's average wing length of 345 mm. is probably a typographical error. Brown and Amadon give wing ♂ 378–410 (mean 392), ♀ 395–423 (mean 409). The pair in CM measures ♂ 393, ♀ 434.

***Circus melanoleucus* (Pennant, 1769)**

No specimens. Lint and Stott (1948:42) state that "an individual of this strikingly marked hawk was seen near Burauen, Leyte, in August, 1945." This seems an unusually early date; Brown and Amadon (1968:405) state that "the earliest birds arrive in winter quarters in late September, but more in October, the peak of the southward passage being about the first ten days of October."

***Accipiter virgatus* subsp.**

Collected by Whitehead, Alcasid and Celestino, and Rabor 1964. The current literature assigns the subspecies *A. v. confusus* Hartert, 1910 as the resident form of the Besra Sparrow-Hawk of the entire Philippine archipelago. Examination of small series in various museums suggested that this was an oversimplification, so specimens were borrowed and assembled at the AMNH, where material of non-Philippine subspecies was also available. The composite series examined from the Philippines numbered 45, undoubtedly representing almost all of the specimens in American museums. It then became obvious that Mindanao birds were easily separable from *confusus* of Luzon (type locality Laguna de Bai), with specimens from intervening islands showing varying degrees of intergradation.

The Mindanao population may be known as:

***Accipiter virgatus quagga* new subspecies**

Type FMNH 274988, adult ♂ collected on Mount Katanglad (5000–5500 feet), Malaybalay, Bukidnon Province, Mindanao, Philippines, on February 19, 1963, by D. S. Rabor (collector's no. 34,849).

DIAGNOSIS: The two fully adult males examined from Mindanao differ from Luzon *confusus* in lacking any barring on the underparts, which are virtually solid rufous from the breast to the lower abdomen; in the type, the abdominal feathers are tipped with gray, and in paratype YPM 61569 they are mixed with gray. In adult males of *confusus* the abdomen is always barred with a mixture of white, rufous, and gray, the barred area extending a varying distance anteriorly. The thighs of adult males of *quagga* are also unbarred, either gray with a tinge of rufous (paratype) or rufous washed with gray (type); in *confusus* the thighs are regularly barred with white and either gray, rufous, or a mixture of the two colors. The dark gray or blackish line bisecting the



white throat is less prominent than in *confusus*. Tail barring tends to be quite variable in *confusus*, but the dark bars of the tail of *quagga* are narrower, rectrix for rectrix, than in most *confusus*. The under wing-coverts of *quagga* are more heavily washed with pale rufous and less heavily spotted with black.

Adult females differ from *confusus* similarly in the reduction of the barring of the underparts, although in this sex some white bars are still present, especially on the lower abdomen and on the basal portions of breast and side feathers. The throat line and under wing-covert characters apply to females, but the difference in tail barring does not.

Some of the specimens listed as "imm." in the list of specimens examined (following) were molting into plumages that agree with the descriptions of the adults of *confusus* and *quagga* just given.

In addition to color differences, *quagga* averages somewhat smaller than *confusus* in wing, tail, and tarsus (see list of measurements following).

Juvenile birds of both sexes are not wholly separable from *confusus*, but the differences described for throat and under wing-coverts are usually valid. In addition, all young Luzon *confusus* examined have at least a few fine dark streaks on the white under tail-coverts, whereas these feathers in Mindanao specimens of similar age are immaculate. There is a tendency for the longitudinal streaks of the underparts of *quagga* to be less bold and browner, less black.

The nearest subspecies to the south of *quagga* is *rufotibialis* of North Borneo. Adult males of these two races are similar in having rich rufous underparts, but in *rufotibialis* the posterior part of the rufous area is barred with white. In addition, the Bornean race has the ground color of the throat pale rufous rather than white, blacker upperparts, and much broader and more conspicuous black bands on the rectrices. Only one female of *rufotibialis* was examined. It is quite unlike the male, being heavily barred below like female *confusus*. The barring of the breast is mixed with black spots and is blacker, less brown posteriorly than in *confusus*. The female also has the broad black tail bands as described for male *rufotibialis*.

**RANGE:** Island of Mindanao, intergrading northward through the eastern islands with *confusus*. Luzon and Mindanao populations represent clinal extremes, as is the case in several other Philippine species. Mindoro adults cannot be separated from Luzon *confusus* except for a slightly narrower throat stripe; two Mindoro juveniles, in addition to the narrower throat stripe, have the browner, less bold ventral streaks typical of *quagga*. The only Negros adult examined, a female, is best assigned to *confusus*. Obvious intergradation between *confusus* and *quagga* takes place through the eastern chain of islands. Two adult

males from Bohol are closest to *quagga* but have faint abdominal barring, and one of the two has faintly barred thighs. Two adult males from Samar are more clearly intermediate, with more definite ventral barring, but this still chiefly posteriorly. One has faintly, the other strongly barred thighs. In throat pattern they resemble Mindoro birds, while the under wing-coverts are like those of Luzon *confusus*. Only a single adult from Leyte, a female, was available. It is intermediate, with the general color of the underparts nearest *quagga*, but the thighs heavily barred and the under wing-coverts heavily spotted. The throat stripe is of intermediate width. Two juvenile males from Leyte have the bold throat stripe and under wing-covert colors of *confusus*, but they have very brown ventral streaking and immaculate under tail-coverts, characters of *quagga*. A single juvenile female from Leyte is similar but has blacker streaks.

MEASUREMENTS: *confusus*—(Luzon only) ad. ♂: wing (flat) 152–162 (157.1), tail 109.5–120 (114.9), tarsus 47–51.5 (49.0); ad. ♀: wing 182.5 and 193, tail 132.5 and 145, tarsus 53 and 55. *quagga*—(Mindanao only) ad. ♂: wing 146 and 147, tail 107.5 and 110, tarsus 45.5 and 46.5; ad. ♀: wing 177, tail 130, tarsus 51.5. Bohol ad. ♂: wing 150 and 154, tail 111 and 112, tarsus 47 and 48. Samar ad. ♂: wing 148 and 152, tail 109 and 111, tarsus 47 and 47. Leyte ad. ♀: wing 178, tail 134, tarsus 56. Mindoro ad. ♂: wing 154, tail 115.5, tarsus 48.5; ad. ♀ wing 179+ (worn), 179.5, and 180; tail 136 and 138; tarsus 52.5, 53.5, and 54.

ETYMOLOGY: The subspecific name, to be treated as a noun in apposition, is taken from *Equus quagga quagga*, the extinct zebra that differed from its close relatives in its much reduced striping.

SPECIMENS EXAMINED: LUZON: ad. ♂, 10 (including type of *confusus*); ad. ♀, 2; imm. ♂, 4; imm. ♀, 2. MINDORO: ad. ♂, 1; ad. ♀, 3; imm. ♂, 1; imm. ♀, 1. NEGROS: ad. ♀, 1; imm. ♂, 2; imm. ♀, 2. LEYTE: ad. ♀, 1; imm. ♂, 2; imm. ♀, 1. SAMAR: ad. ♂, 2. BOHOL: ad. ♂, 2, imm. ♂, 1. MINDANAO: ad. ♂, 2; ad. ♀, 2; imm. ♂, 1; imm. ♀, 2. NORTH BORNEO: ad. ♂, 3 (including type of *rufotibialis*); ad. ♀, 1.

Data for hitherto unpublished Leyte records are as follows: Alcasid and Celestino took a juvenile male at Balinsasayao on July 16, 1961. Rabor took an adult female at Tambis on May 4, 1964 and a juvenile male and female on Mt. Kabalanti-an on June 23. The juvenile male is in the FMNH; the other two Rabor specimens are in the USNM.

#### *Accipiter trivirgatus extimus* Mayr, 1945

Collected by Everett, Holder, and Rabor 1964. In looking over a few specimens from the Philippines, I saw that there is obviously variation within the range assigned to *extimus*. It was difficult to assess this variation, so an undoubtedly unprecedented series of 30 specimens belonging to eight museums was assembled in an effort to clarify the matter. It

became apparent that there is a tendency toward differentiation in the Davao region of southeastern Mindanao (the type locality of *extimus*). It is expressed, however, *only* in definitively plumaged males and is not quite consistent in these, so it seemed unwise to name an additional subspecies. Seven adult males from Davao (including the type of *extimus*) were compared with three from Samar, three from Negros, one from Leyte, and one each from Bukidnon and Cotabato provinces, Mindanao. The Davao birds are much paler on the underparts than the males from elsewhere, *except* that FMNH 185134 is too dark below for the Davao type, and two of the nine from elsewhere (YPM 23516, Negros, and FMNH 276278, Leyte) are pale below like Davao birds. Dorsally the non-Davao birds are darker as well, with the dark color extending to the cheeks. In this character the specimens mentioned above do conform with the rest of their respective series, but UMMZ 114042 from Calicoan Island, Samar, and FMNH 184026 from Cotabato Province are too pale-headed for their group.

There is no consistent difference, but much variation, among definitively plumaged females. The Holder specimen, collected "high on mt. in jungle" at Tigbao, Leyte, on November 11, 1945, is by far the darkest female examined; its extreme coloration originally stimulated the study of this species. However, it is also the freshest-plumaged bird of the series of adult females (Davao, 2; Samar, 3; Leyte, 1; Bukidnon, Mindanao, 1), probably accounting for its relatively dark color. Comparisons among eight immatures (Davao, 4; Negros, 1; Leyte, 1; Zamboanga, Mindanao, 2) also failed to reveal any consistent pattern of geographic variation.

Everett's specimen from Amparo (BMNH 1887-11-1-110) was sexed as a female; but Tweeddale (1878:340) stated, "In Mr. J. H. Gurney's opinion this Leyte example is in immature plumage, and probably belongs to a male." Mr. Gurney was correct: the plumage is indeed that of an immature bird, and the wing measurement of 189 is that of a male. Seven males had wings from 182 to 193 mm., and four females ranged from 203 to 217 mm.

In addition to the Holder bird, unpublished specimens include an adult male taken by Rabor on Mt. Kabalanti-an on June 23, 1964 (FMNH) and an adult male and female taken at Tambis on May 16 and June 3 (USNM). The latter two specimens were not utilized in the comparisons.

### *Butastur indicus* (Gmelin, 1788)

Collected by Celestino, Bivins, and Holder. There have also been Leyte recoveries of banded birds. Gray-faced Buzzards banded at Mitakojima in the Ryukyu Islands on October 29, 1964 and October 17, 1965 were recovered at Maasin and Burauen, Leyte, on January 23, 1965 and February 7, 1966 respectively (McClure, [1967]:131). Four other

banded individuals were recovered in Leyte in 1968, but no details were published (McClure, 1969:179).

Celestino's specimen or specimens, the first to be reported from Leyte, were taken for parasitological studies (Tubangui and Masilungan, 1937). Even if skins were preserved (which is not known), the specimens would have perished in the burning of the National Museum in Manila in 1945.

By buteonine standards, this is not a particularly variable species. However, the Bivins specimen (CU 21378, imm. ♀, Tacloban, January 1946) is in two respects completely outside the range of variation of the extensive series examined in the AMNH and YPM. The dorsum is a blacker brown, but even more conspicuous is the reduction to the point of obsolescence of the tail barring. The central rectrices (one broken) have only a faint subterminal darkening, and no other bars at all. The remaining rectrices have faint indications of bars on the inner web, except the outermost pair, in which there is merely a marbling of white on the inner web. The specimen does appear to be referable to *Butastur indicus*, but whether it is an aberrant individual or a migrant from some undescribed local population cannot be stated at this time.

Occasional individuals are strikingly more rufescent than the majority of this species. Among wintering Philippine birds of this type are AMNH 93558 from Sorsogon, Luzon; AMNH 459062 from Lamao, Bataan, Luzon; and one of Holder's Leyte specimens, CM 138374, a fresh-plumaged immature female taken in "jungle" at Limon, November 4, 1945. The latter specimen is one of the most rufescent specimens of this species examined. As in the case of the odd Bivins specimen, there is no evidence as to whether these rufescent birds represent individual variants or migrants from a discrete population.

The other Holder specimen, an immature tentatively sexed as female by the collector, was taken 1 mile west of Palo on October 31, 1945. It is somewhat more worn and decidedly less rufescent than the Limon specimen. Brown and Amadon (1968:542) gave wing measurements for this species as ♂ 315–325 mm., ♀ 322–336 mm. Holder's definitely sexed female measures 332 mm., and the tentatively sexed bird 320 mm. At only 2 mm. shorter than Brown and Amadon's smallest female, this wing measurement cannot be considered as sufficient evidence to state that Holder missexed the bird.

### *Pithecophaga jefferyi* Ogilvie-Grant, 1896

No Leyte specimens exist, but Whitehead, who discovered the species on Samar and was thoroughly familiar with it, heard its call frequently during his short stay on Leyte (Ogilvie-Grant, 1897:219). DuPont (1971:47) states that the Monkey-eating Eagle "formerly" occurred on Leyte. I am inclined to doubt whether parts of the interior of the island



have been surveyed thoroughly enough to be certain that the species does not survive there.

*Spizaetus philippensis* Gould, 1863

The only Leyte record for this species is a specimen collected by Holder 1 mile west of Palo on November 13, 1945. The collector sexed the bird as ♀? The wing measurement of 326 mm. exactly matches that of one immature male given by Brown and Amadon (1968:700), whereas one immature female measured 353 mm. It is unfortunate that neither of the standard modern works on Philippine birds, Delacour and Mayr (1946) and duPont (1971), describes the immature plumage of the Philippine Hawk-Eagle, which is highly distinctive. The Leyte specimen is a good match for the description given by Brown and Amadon (1968:700), but it is even paler. The entire head (except for the four long, black crest feathers) is creamy white, with narrow, dark brown shaft streaks at the tips of the posterior crown feathers. The thighs are not "darker" than the rest of the white underparts (which are somewhat stained in this specimen) but are pure white, and the light cinnamon barring described by Brown and Amadon, while present, would probably not be visible in the field. They describe the upperparts as "dark greyish brown . . . mixed and edged with white." In the Leyte specimen, the anterior dorsal feathers are white for the basal two thirds or so, only the tip being dark brown. Under field conditions, the foreback would probably look white spotted with brown. The long feathers of the midback are dark brown with whitish edges; although white at the base, normal overlap conceals this. Most of the rump feathers are new and are pale grayish brown; the few remaining old, worn juvenile feathers of the rump suggest that this area would have appeared nearly white in the field. The eye color of the immature *Spizaetus philippensis* is given by Brown and Amadon as "pale brownish gray"; this may have been noted from a younger juvenile, as Holder recorded both the eye and toe color of his bird as yellow.

FAMILY FALCONIDAE FALCONS

*Microhierax erythrogenys meridionalis* Ogilvie-Grant, 1897

Collected by Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Meyer de Schauensee and duPont (1962:152) thought the two Caliwag specimens from Abuyog were the first from Leyte, but they overlooked Rabor's 1938 paper. Alcasid and Celestino collected an adult female and a juvenile female at Balinsasayao July 15, 1961 and a very worn male at Patok on August 3. Rabor collected an adult male and female at Tambis on May 11 and June 2, 1964 (USNM).



## FAMILY MEGAPODIIDAE MEGAPODES

*Megapodius freycinet pusillus* Tweeddale, 1877

No Leyte specimens. Rabor (1938) reported this species as seen but not collected in the highlands, presumably somewhere near Barrio Helosig.

## FAMILY PHASIANIDAE PHEASANTS

*Gallus gallus philippensis* Hachisuka, 1939

Collected by Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Meyer de Schauensee and duPont (1962:152) could find no Leyte record for the Red Junglefowl prior to the Caliwag specimens, but they had overlooked Rabor's 1938 paper. Alcasid and Celestino took an adult male at Balinsasayao on July 7, 1961. Rabor (USNM) collected an adult male at Tambis on May 27, 1964 and two adult females in the Mount Kabalanti-an area on June 12 and 27. This subspecies was not admitted by duPont, but see Parkes, 1962a.

## FAMILY RALLIDAE RAILS

*Rallus striatus striatus* Linné, 1766

Everett collected a male and female at Amparo in July 1877 and another male and female and a young male in "S. Leyte" in September (Tweeddale, 1878:345). There have been no subsequent Leyte records.

*Rallus torquatus torquatus* Linné, 1766

Collected by Everett, Holder, and Rabor 1964; sight record by Rabor 1937. The Holder specimen was taken near Tacloban between mid-September and the end of November 1945, but it lacks exact data. Rabor's specimen (USNM) was taken at Santa Cruz on June 23.

*Rallina eurizonoides eurizonoides* (Lafresnaye, 1845)

Collected only by Everett.

*Porzana fusca fusca* (Linné, 1766)

Collected by Everett and by Rabor 1964. The latter took an adult at Tambis on May 8 (USNM).

*Poliolimnas cinereus ocularis* Sharpe, 1894

Collected by Everett, Steere, and Holder; sight record by Rabor 1937. Holder's specimen, a male just beginning its first prebasic molt, was taken

at the Tacloban airstrip on October 30, 1945. The iris was "maroon."

Olson (1970) has proposed enlarging the genus *Poliolimnas* to include the neotropical species *Porzana flaviventer*. Careful study of his paper shows that the supposed relationship is based entirely on a superficial resemblance in facial pattern and a supposed difference in bill shape. Examination of *Poliolimnas cinereus*, *Porzana flaviventer*, and about half a dozen other species of *Porzana* shows that even the bill character is inconsistent. Several *Porzana* have the bill shape described for *Poliolimnas*, and at least some specimens of the latter match Olson's diagnosis for *Porzana*. All *Porzana* that I examined had under tail-coverts barred black and white. The reddish buff under tail-coverts of *Poliolimnas cinereus*, contrasting with the remainder of the underparts, are presumably of some selective importance; if *flaviventer* were really related to *cinereus*, one might expect a resemblance in this plumage area, but *flaviventer* matches other *Porzana* in its black and white under tail-coverts. Although generic limits among the crakes may well need redefinition, I see no relationship between *cinereus* and *flaviventer*, and I reject Olson's reclassification.

***Amaurornis olivaceus olivaceus* (Meyen, 1834)**

Collected by Everett and by Rabor 1964. The latter obtained a single specimen at Tambis (USNM) on May 10.

***Amaurornis phoenicurus javanicus* (Horsfield, 1821)**

The only Leyte record is Caliwag's specimen from Abuyog.

***Gallinula chloropus lozanoi* Lletget, 1918**

Everett's specimens (not seen by me) were collected in July, indicating that they probably belong to the resident Philippine subspecies. One or more gallinules were also collected by Celestino for parasitological studies, but there is no way of knowing whether this record pertains to a resident or wintering population.

**FAMILY ROSTRATULIDAE PAINTED-SNIPE**

***Rostratula benghalensis benghalensis* (Linné, 1758)**

Collected only by Everett.

**FAMILY CHARADRIIDAE PLOVERS**

***Pluvialis dominica fulva* (Gmelin, 1789)**

First collected by Everett. McGregor (1927:514) stated that on October 15, 1923 he "received from Mr. U. C. Roush of Tacloban, Leyte, a fresh unstuffed skin of a golden plover." The unstated assumption is that the specimen was collected in the vicinity of Tacloban. There are five

specimens in the Holder collection: October 30, November 2 (two), and November 14, 1945 from Tacloban airstrip, and one without exact data (i.e., vicinity of Tacloban between mid-September and late November 1945). The two November 2 specimens are now at LSU.

#### *Charadrius dubius dubius* Scopoli, 1786

Everett's series of nine specimens from "S. Leyte" in "full breeding-plumage" (Tweeddale, 1878:344) are assigned to this subspecies on a probability basis. The specimens collected by Rabor 1937 and Caliwag (Meyer de Schauensee and duPont, 1962) were identified as the nominate race. Holder collected an immature specimen of this race (bill from forehead, 18 mm.) at the Tacloban airstrip on October 30, 1945. Rabor collected five specimens at Santa Cruz from June 13-18, 1964 (2 FMNH, 3 USNM); all are in full alternate plumage and show the large amount of black on the head and the yellow on the lower mandible typical of the Philippine breeding race.

#### *Charadrius dubius curonicus* Gmelin, 1789

Delacour and Mayr (1946:70) stated that this race "may occur as an occasional winter visitor" in the Philippines. DuPont (1971:78) stated simply, "Winters in the Philippines from Asia." There are two immature specimens in the Holder collection, unfortunately without exact data (vicinity of Tacloban, mid-September to late November 1945). They are easily separable from *C. d. dubius* by their shorter and weaker bills (from forehead, 14.5 mm., 16 mm. [approximate; tip broken] versus 18-20 mm. in seven Philippine specimens of *dubius*). These appear to be the first specimens of *C. d. curonicus* reported for Leyte, but the shore birds as a group have been undercollected in the Philippines in general and in Leyte in particular.

#### *Charadrius alexandrinus dealbatus* (Swinhoe, 1870)

DuPont (1971:79) states of this species, "Winters throughout the Philippines from China and Japan"; Delacour and Mayr (1946:70) characterized it as an "occasional visitor." The only Leyte record is a Holder specimen without exact data (i.e., vicinity of Tacloban, mid-September to late November 1945).

#### *Charadrius peronii* Schlegel, 1865

Collected by Everett.

#### *Charadrius mongolus mongolus* Pallas, 1776

Collected by Everett and by Celestino.

#### *Charadrius leschenaultii* Lesson, 1826

Collected by Everett.

## FAMILY SCOLOPACIDAE SANDPIPERS

*Actitis hypoleucos* (Linné, 1758)

Rabor (1938) believed his to be the first specimen of the Common Sandpiper from Leyte, but he overlooked Everett's record (Tweeddale, 1878:345). The species has also been collected by Holder, who took a male at the Tacloban airstrip on December 1, 1945.

I prefer to retain the genus *Actitis* for the Common and Spotted Sandpipers (*A. macularia*), rather than merge these species into *Tringa*.

*Heteroscelus incanus brevipes* (Vieillot, 1816)

Collected by Everett and by Holder, who took a worn adult male at the Tacloban airstrip on October 25, 1945.

I prefer to maintain the genus *Heteroscelus* for the tattlers rather than merge these, too, into *Tringa*. DuPont (1971:93), who placed this species in the feminine genus *Tringa*, inadvertently spelled the specific epithet as "*incanas*" rather than *incana*.

*Gallinago megala* Swinhoe, 1861

This abundant winter visitor to the Philippines has been collected on Leyte only by Everett and by Bivins, who took an unsexed bird (CU 21377) at Palo on December 25, 1945.

*Gallinago gallinago* (Linné, 1758)

Collected by Everett.

## FAMILY LARIDAE GULLS AND TERNS

*Chlidonias hybrida javanica* (Horsfield, 1821)

McGregor (1927:514) states, "On October 15, 1923, I received from Mr. U. C. Roush of Tacloban, Leyte, a wing and a leg of a whiskered tern, a species so far unknown from Leyte." This remains the only Leyte record.

It should be pointed out that duPont's (1971:105) attribution of "Luzon" as the range of *C. h. fluviatilis* (Gould, 1843) is misleading. This race, the Australian representative of the species, is an accidental visitor with one known Philippine specimen (Parkes, 1958).

*Sterna fuscata serrata* Wagler, 1830

*Sterna serrata* Wagler, Natursyst. Amphib., 1830:39 (note) (New Caledonia).

The race of Sooty Tern occurring in the Philippines has been listed as *S. f. nubilosa* Sparrman, 1788, which according to Peters (1934:339), extends from the Indian Ocean islands to the Sulu Sea and Ryukyu Islands. The one Leyte record, however, refers to a bird banded on Roach Islet, Lord Howe Island, November 28, 1962 and recovered in



Wawa Strait, southern Leyte, March 4, 1967 during a storm (Rabor *et al.*, 1970). This specimen must belong to the Australian race, which is hereby added to the Philippine avifauna. The record was published too late for inclusion in duPont (1971).

***Sterna bergii cristata* Stephens, 1826**

Collected by Everett.

**FAMILY COLUMBIDAE PIGEONS AND DOVES**

***Treron pompadora canescens* Parkes, 1965**

Collected by Rabor 1937, Alcasid and Celestino, and Caliwag. Meyer de Schauensee and duPont (1962:153-154) overlooked Rabor's published record in stating that the two Caliwag specimens from Dagami were the first from Leyte. One individual of this species was banded at the MAPS station at Mahaplag in 1966 (McClure and Leelavit, 1972:281).

The three specimens collected at Patok by Alcasid and Celestino (July 19 and August 3 and 7) were among the specimens examined at the time of the description of this subspecies (Parkes, 1965b). As then indicated, one of these is slightly atypical, approaching *T. p. axillaris* of southern Luzon in dorsal color.

***Treron vernans vernans* (Linné, 1771)**

Collected only by Caliwag. In publishing this record, Meyer de Schauensee and duPont (1962:154) did not cite a specific locality within Leyte.

***Phapitreron leucotis brevirostris* (Tweeddale, 1877)**

Collected by Everett, Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. This is obviously an abundant species on Leyte. The series taken by Alcasid and Celestino at Balinsasayao and Patok includes 19 specimens, and in 1964 Rabor took 24 for the FMNH and 44 for the USNM in the Mount Lobi and Mount Kabalanti-an areas. Meyer de Schauensee and duPont (1962:154) listed Caliwag's nine specimens under the name *P. l. albifrons* McGregor, 1907, but I have shown that this alleged race is untenable (Parkes, 1971c:6-7).

One bird of this species was banded in 1964 and six in 1966 at the MAPS station at Mahaplag (McClure and Leelavit, 1972:281).

***Phapitreron amethystina amethystina* Bonaparte, 1855**

Collected by Steere, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino collected two at Balinsasayao and six at Patok; females taken July 12, 18, and 26 were labelled "Breeding" or "Nesting." Rabor's series from the Mount Lobi and Mount Kabalanti-an

areas has been distributed as follows: 23 USNM, 12 FMNH, one DMNH.

Meyer de Schauensee and duPont (1962:154) compared Caliwag's four Leyte birds with two from Luzon (inadvertently spelling the species' name "*amethystina*") and found them to agree well. In comparing the eight collected by Alcasid and Celestino with 10 from Luzon in the AMNH, I found a very slight tendency in Leyte birds toward a grayer crown and blacker upperparts, but not enough to warrant separating them from *P. a. amethystina*. Although I examined only two Bohol specimens, I could not separate these from Luzon birds, and I agree with Rand and Rabor (1960:329) that *celestinoi* Manuel, 1936 cannot be upheld; although they had a much larger series from Bohol, they compared these only with Samar specimens. The type locality "Philippines" of Bonaparte, cited by duPont (1971), has been restricted to Manila by Hachisuka (1930:145). I agree with the broad concept of nominate *amethystina* adopted by duPont (1971:119), except that I consider *polillensis* Hachisuka, 1930 a valid race (Parkes, 1971c:7).

#### ***Ptilinopus occipitalis incognitus* (Tweeddale, 1877)**

Collected by Steere, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. DuPont (1971:121) recognizes no races of this species. When I wrote previously on variation in *Ptilinopus occipitalis* (Parkes, 1960), I had not yet seen Leyte specimens. I have now examined the 14 collected by Alcasid and Celestino, the two collected by Caliwag, and the nine 1964 Rabor specimens in the FMNH; and I have made new comparisons with birds from other islands (the 12 Rabor 1964 specimens in the USNM were examined but not compared). These specimens confirm my previous finding that *brevipes* Hachisuka, 1930 is a very distinctive race of the *highlands* of Mindanao; that nominate *occipitalis* Gray, 1844 inhabits Luzon, Mindoro, and Sibuyan; and that an intermediate form, to which the name *incognitus* Tweeddale is applicable, occupies *lowland* Mindanao, Negros, Cebu, Samar, and Leyte. I have not seen Bohol specimens, which undoubtedly belong here as well. In view of the large range occupied by the admittedly intermediate form, it seems preferable to apply the available name *incognitus* rather than to call them all *occipitalis* × *brevipes*.

#### ***Ptilinopus leclancheri leclancheri* (Bonaparte, 1855)**

Meyer de Schauensee and duPont (1962:155) stated that Caliwag's juvenile specimen from Mount Lobi was the first record from Leyte. It is the first (and only) specimen, but there is an earlier sight record. Lint and Stott (1948:43) saw two along the Binalayan River south of Tanauan on January 3, 1946.

***Ducula aenea aenea* (Linné 1766)**

Collected by Everett, Whitehead (overlooked by McGregor, 1909), Rabor 1937, and Alcasid and Celestino. The latter collectors took a single male at Balinsasayao on July 8, 1961.

***Ducula poliocephala* (G. R. Gray, 1844)**

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, and Rabor 1964. DuPont (1971:130) admits *D. p. nobilis* (Hachisuka, 1931), described from Negros, and uses this name for Leyte birds. Rabor (1938:18-19), who collected a series of 17 specimens of this pigeon on Leyte, compared his birds with specimens from Luzon, Mindoro, Negros, Sibuyan, Mindanao, and Basilan. He found that the supposed metallic bronzy reflections on the neck, back, and wing-coverts attributed to *nobilis* by Hachisuka were too variable to invoke as a subspecific character. The limited material I have examined in the AMNH shows that the degree of development of these bronzy reflections is not geographically correlated, but depends on individual variation and degree of plumage wear.

There are, however, some trends of geographic variation in *Ducula poliocephala*. The crowns of specimens from Samar and Leyte are purer gray than those from elsewhere. The brown of the flanks extends farther forward and also invades the abdominal region in Luzon birds. Specimens from Negros are variably intermediate in flank color, but like Luzon birds in crown color. One specimen from Mindoro resembles Luzon birds in crown color, but matches Samar/Leyte birds in flank and abdomen color. In view of this patchwork of variation, the use of more than one name for populations of this species appears to be unwarranted. I follow Peters (1937:53) and other authors in using a binomial for *D. poliocephala*; Delacour and Mayr (1946:90) consider *D. forsteni* of Celebes conspecific, but I have not looked into this question.

Unpublished Leyte records for this species include a single specimen taken by Alcasid and Celestino at Patok on July 7, 1961 and two taken by Rabor on Mount Kabalanti-an on June 27, 1964 (1 FMNH, 1 USNM).

***Columba vitiensis griseogularis* (Walden and Layard, 1872)**

Alcasid and Celestino collected an adult female and a female in first prebasic molt at Patok on August 3 and 10, 1961. These specimens constitute the first record from Leyte of this widely distributed species. I have compared specimens from Luzon, Mindoro, Romblon, Leyte, Negros, Mindanao, and various islands of the Sulu Archipelago. There appears to be no geographic variation within the Philippines in this species.

*Macropygia phasianella tenuirostris* Bonaparte, 1854

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Unpublished records include four July specimens from Patok (Alcasid and Celestino) and eight from various localities in the Mount Lobi area taken by Rabor between May 26 and June 5 (3 FMNH, 5 USNM). For a discussion of geographic variation within this species in the Philippines, see Parkes, 1971c:8.

*Streptopelia bitorquata dusumieri* (Temminck, 1823)

The only previously published Leyte record is that of Everett. R. P. Grossenheider collected an adult male 1 mile north of Telegrafo (which is 2 miles south of Tolosa) on the east coast on December 17, 1944. According to the label, the specimen (AMNH 461176) was "taken in coconut palm near edge of swamp." Holder collected a specimen 1 mile west of Palo on November 13, 1945.

*Streptopelia chinensis tigrina* (Temminck, 1810)

The range of this species has been rapidly expanding in the Philippines. Delacour and Mayr (1946) knew it only from Palawan and Balabac. Island to island movement is documented by McClure (1968:117): a Spotted Dove banded in Negros in February 1967 was recovered four months later in Cebu. Inclusion of Leyte in the range as given by duPont (1971:133) is based on a specimen collected by Alcasid and Celestino at Balinsasayao on July 7, 1961.

*Chalcophaps indica indica* (Linné, 1758)

The first record for Leyte was the sight record of Rabor (1938), overlooked by Meyer de Schauensee and duPont (1962:155) in publishing Caliwag's two specimens from Abuyog as the first Leyte record. The species has also been collected on Leyte by Alcasid and Celestino, who took two young birds at Patok on August 8 and [no date] 1961; by Holder, who took a pair of adults 1 mile west of Palo on November 16, 1945; and by Rabor, who collected 12 in the Mount Lobi and Mount Kabalanti-an areas (3 FMNH, 9 USNM). At the MAPS station at Mahaplag, one was banded in 1964 and 20 in 1966 (McClure and Leelavit, 1972:281).

*Gallicolumba criniger leytensis* (Hartert, 1918)

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, and Rabor 1964. I have already (Parkes, 1962b:2-3) explained my preference for treating the vicariant forms of the Bleeding-heart Pigeon as a single superspecies divided into several geographically variable allospecies, in order best to express the various stages of differentiation that have been attained. The Leyte population, according to this concept, belongs in the polytypic species *G. criniger*; *G. luzonica*, rather than including all



of the races, is thus restricted to the two Luzon forms *G. l. luzonica* and *G. l. griseolateralis*.

The discussion of the *criniger* group by Delacour and Mayr (1946:96) is inadequate and misleading. They describe *basilanica* (Hartert, 1918) as "very slightly differentiated" from *criniger* of Mindanao, but "a little darker in color." In point of fact, Hartert (1918) separated *basilanica* from *criniger* on the basis of smaller size; the only color character mentioned ("generally the rump is a little lighter") is the exact opposite of Delacour and Mayr's description. I have not measured a series of specimens and cannot refute Hartert's size separation; the one Basilan specimen in CM, with a wing of 148 mm., conforms well with Hartert's figures. I do not know the basis for duPont's (1971:138) having synonymized *basilanica* with *criniger*.

As for *leytensis*, Delacour and Mayr (1946:96) characterize it also as "very slightly differentiated" from *criniger*, this time "a little lighter [in color]." This ignores completely the chief difference between *leytensis* on the one hand and *criniger/basilanica* on the other. In the latter races, the "blood patch" is bordered on the sides by the extended white of the throat patch, and posteriorly by the reddish cinnamon of the posterior underparts. In *leytensis* the "blood patch" is bordered by white only anteriorly, being placed in a broad dark breast band that is metallic green anteriorly, changing to gray posteriorly. The cinnamon on the underparts begins much farther back, and there is much more white on the midabdomen in *leytensis* than in *criniger/basilanica*. The description of *leytensis* given by duPont (1971:139) is based on these notes. Samar and Leyte specimens are identical.

Alcasid and Celestino collected two females at Balinsasayao on July 7 and 12. Rabor took a single specimen at Mount Lobi on May 28 ("active ovary") and June 4 (USNM) and at Mount Kabalanti-an on June 20 and 26 (FMNH).

## FAMILY PSITTACIDAE PARROTS

### *Kakatoe haematuropygia* (P. L. S. Müller, 1776)

Collected by Everett, Steere, and Alcasid and Celestino; the latter took a single adult female at Balinsasayao on July 11. In addition, there is a sight record by Lint and Stott (1948:42-43) from the San Pablo airstrip, March 2, 1946.

### *Prioniturus discurus discurus* (Vieillot, 1822) > *P. d. whiteheadi* Salomonsen, 1953

Collected by Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino collected a series of eight adults and five immatures between July 8 and August 8 at their two local-

ities. In the Mount Lobi and Mount Kabalanti-an areas, Rabor took five adults and four immatures for the FMNH and 13 adults and four immatures for the USNM. Two additional Rabor specimens from Mount Kabalanti-an are in the DMNH. Dates range from May 20 to July 9. For a discussion of geographic variation in this species, see Parkes, 1971c:9-10.

***Tanygnathus lucionensis salvadorii* Ogilvie-Grant, 1896**

Collected by Everett, Whitehead, Rabor 1937, Holder, Alcasid and Celestino, Caliwag, and Rabor 1964. Previously unpublished Leyte records include an adult male collected by Holder at the Tacloban airstrip on November 20, 1945; six adults and a juvenile collected by Alcasid and Celestino at Balinsasayao (July 9, 12, and 15) and Patok (July 27 and 31 and August 2 and 8); and seven adults taken by Rabor in the Mount Lobi and Mount Kabalanti-an areas between May 3 and July 1 (2 FMNH, 5 USNM). For the use of this subspecific name, see Parkes, 1971c:10-11.

***Tanygnathus sumatranus everetti* Tweeddale, 1877**

Collected by Alcasid and Celestino and by Caliwag. These two 1961 specimens represent the first Leyte record for the species. The AMNH specimen, taken at Patok on July 21, is indistinguishable from two Mindanao specimens of *everetti*.

***Bolbopsittacus lunulatus intermedius* Salvadori, 1891**

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. The type specimen of *intermedius* in the BMNH is a male without locality data, from the collection of Hugh Cuming. As I have explained (Parkes, 1971a), it matches specimens from Leyte and Samar. There is no evidence that Cuming himself visited Leyte, but parrots are common cage birds in the Philippines, and Cuming might have obtained this specimen in a market or from an individual almost anywhere. Alcasid and Celestino obtained a series of 10 specimens in their two localities, and Rabor collected seven in his two areas (4 FMNH, 2 USNM, 1 DMNH). One was banded in 1964 at the MAPS station at Mahaplag (McClure and Leelavit, 1972:281).

***Loriculus philippensis worcesteri* Steere, 1890**

Collected by Everett, Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. The original description did not specify which island was the source of the type specimen, and duPont (1971:150) has followed Steere in giving "Samar and Leyte" as the type locality of *worcesteri*. The type specimen itself is from Catbalogan, Samar (Hachisuka, 1934:97; confirmed in letter of December 21, 1962 from I. C.

J. Galbraith). There is no consistent difference between Samar and Leyte specimens. DuPont (1971:150) compares *worcesteri* with *L. p. philippensis*, but as stated by Rand and Rabor (1960:286, 331) it is closest to *apicalis* of Mindanao, from which it differs only in the lesser amount of orange wash on the dorsum. The unpublished Alcasid and Celestino material includes eight specimens from Balinsasayao and Patok taken between July 7 and 29; that of Rabor consists of 15, all from the Mount Lobi area, taken between May 2 and June 1 (5 FMNH, 10 USNM).

## FAMILY CUCULIDAE CUCKOOS

### *Cuculus sparverioides sparverioides* Vigors, 1831

Although duPont (1971:154) says of this species simply, "Found throughout the Philippines," it appears to be rare and local, as already suggested by Delacour and Mayr (1946:106). Rabor (1938) collected one female on Leyte and commented that at that time the species had been taken only on Luzon, Negros, and the Calamianes. His specimen, destroyed in 1945, remains the only Leyte record.

### *Cuculus fugax pectoralis* (Cabanis and Heine, 1863)

Rabor collected an immature male at Tambis on May 25 and a sub-adult female at Ma-alngon on June 6, 1964. These specimens, which are in the USNM, constitute the only Leyte record for the species.

### *Cuculus micropterus micropterus* Gould, 1837

DuPont (1971:155) considered this species a "straggler" to the Philippines, as did (tentatively) Delacour and Mayr (1946:106). DuPont listed only Mindoro and Negros; a specimen in the USNM collected by Rabor, an adult male taken at Ma-alngon on May 29, 1964, is the first Leyte record.

### [*Cuculus canorus telephonus* Heine, 1863]

Rabor (1938) listed a female of this species as having been collected on his 1937 Leyte expedition. No other collector has obtained *C. canorus* on Leyte, and Rabor's specimen is no longer extant. In view of the difficulty of distinguishing among certain of the species of *Cuculus* that occur in the Philippines, it seems best to consider this record hypothetical. Rabor himself appears to have rejected his own record, as in a later paper (Rabor, 1952:256) he states that the Common Cuckoo has been recorded only from Basilan, Batan, Calayan, Negros, Palawan, and Siquijor.

***Cuculus saturatus horsfieldi* Moore, 1857**

Rabor collected subadult females on May 2 and 3 and an adult male on May 24, 1964, all at Tambis. These specimens in the USNM constitute the first Leyte record for this migrant.

***Cacomantis merulinus merulinus* (Scopoli, 1786)**

This species was reported to have been collected on Leyte by the Steere Expedition (Steere, 1890:12). The early Philippine literature did not distinguish between *C. merulinus* and *C. variolosus*; only the former is listed, for example, by McGregor (1909). Stresemann (1912) correctly attributed both species to the Philippines, but as late as 1934, Hachisuka (1934:207) synonymized *variolosus* with *merulinus*. Even Delacour and Mayr (1946:107) admitted only *C. v. everetti*, attributed to Basilan and the Sulu Archipelago. It remained for Rand (1951a) to demonstrate that the species *C. variolosus* is actually widely distributed in the Philippines and sympatric with *C. merulinus* (see also Parkes, 1960:334). As subsequent collectors on Leyte have obtained only *C. variolosus*, it is appropriate to conjecture as to whether the alleged *C. merulinus* collected by Steere really belonged to that species. The number of specimens of *Cacomantis* collected on Leyte by the Steere Expedition is not stated, but at least one bona fide *C. merulinus* from Leyte is indeed among the Steere specimens in the BMNH, where its identity was verified for me by I. C. J. Galbraith (letter of February 6, 1973).

***Cacomantis variolosus sepulcralis* (S. Müller, 1843)**

When I discussed this species (Parkes, 1960:334), I was uncertain as to whether Philippine specimens were correctly assigned to *sepulcralis*, described from Java and Sumatra. I have subsequently compared Philippine specimens with a few from Java and the Lesser Sunda Islands, and I find no differences.

There are three Leyte specimens of this species: a juvenile male collected at Patok by Alcasid and Celestino on August 2, 1961 and two USNM specimens taken by Rabor in 1964 (Tambis, May 15, and Ma-alngon, June 6). In addition, one was banded at the MAPS station at Mahaplag in 1964 (McClure and Leelavit, 1972:281).

***Chrysococcyx xanthorhynchus amethystinus* (Vigors, 1831)**

The only Leyte record for this rare cuckoo is a juvenile female collected at Patok by Alcasid and Celestino on August 4, 1961. It conforms well with the description of the young of this species published by Shelley (1891:290).

***Surniculus lugubris velutinus* Sharpe, 1877**

Collected by Rabor 1937, Caliwag, Alcasid and Celestino, and Rabor 1964. The earlier Rabor record was overlooked by Meyer de Schauensee



and duPont (1962) in stating that Caliwag's specimen from Dagami was the first from Leyte. Alcasid and Celestino collected eight specimens, which average very slightly glossier (less velvety) than Mindanao and Basilan birds, indicating a tendency toward *S. l. chalybaeus* Salomonsen, 1953 of Luzon, Mindoro, and Negros. Rabor collected two specimens in 1964 (USNM): Ma-alngon, May 24, and Mount Kabalanti-an, June 19.

***Eudynamis scolopacea mindanensis* (Linné, 1766)**

Collected by Whitehead and by Alcasid and Celestino. The latter collectors took a single young male at Patok on August 3, 1961.

***Centropus viridis viridis* (Scopoli, 1786)**

Collected by Everett, Steere, Rabor 1937, Holder, Alcasid and Celestino, Caliwag, and Rabor 1964. Data on previously unpublished records of this familiar Philippine species are as follows: Palo, adult ♂, October 25, 1945 (Holder); Balinsasayao, July 6, and Patok, July 18, 1961 (both ♂♂ in first basic plumage) (Alcasid and Celestino); 1 mile north of Telegrafo, adult ♂, December 18, 1944. The latter specimen was collected by George C. Becker and donated to the AMNH by R. P. Grossenheider. Notes on the label state "Length 17 [inches]. Taken in tall bamboo thicket—edge of swamp. Most frequent call is cuckoo-like, low-pitched 'cuc, cuc,' etc., that carries." Rabor took 24 (9 FMNH, 15 USNM) in the Mount Lobi area in May and nine (1 FMNH, 8 USNM) at Santa Cruz in June, all definitively plumaged adults except for three first-year birds from Santa Cruz.

***Centropus melanops banken* Hachisuka, 1934**

Collected by Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. The 10 specimens collected by Alcasid and Celestino and four of the five collected by Caliwag were included in the series I studied in deciding to revive the subspecies *banken* (Parkes, 1971c:13–14). This race is synonymized with *melanops* Lesson, 1830 by duPont (1971:163). Rabor collected 16 specimens at various of his 1964 localities; two are now in the FMNH, two in the DMNH, and the rest in the USNM.

***Centropus bengalensis philippinensis* Mees, 1971**

Collected by Everett and by Bartsch. In pointing out that the name *C. molkenboeri* Bonaparte, 1850 had long been misapplied to this form (the type in Leiden is an example of *C. viridis*), Mees (1971) chose a valid but nevertheless unfortunate substitute name for the Philippine population of the Lesser Coucal; the name *philippensis*, differing only in the lack of the syllable *-in*, appears in the synonymy of both *C. viridis* and *C. sinensis* (Shelley, 1891).

## FAMILY STRIGIDAE OWLS

*Otus bakkamoena everetti* (Tweeddale, 1878)

The only Leyte specimens of this owl have been collected by Rabor; his 1938 specimen, the first for the island, is no longer extant. In 1964 he collected three adult males, one adult female, and a juvenile female (at Tambis, May 4). One male is in the FMNH, one male in the DMNH, and the rest of the specimens are in the USNM. The FMNH male was compared with three males of *everetti* from Mindanao and matched well except for having a slightly shorter wing: 151 mm. versus 159, 161, 170.

*Bubo philippensis mindanensis* (Ogilvie-Grant, 1906)

The immature male collected by Rabor and destroyed in 1945 was the first Leyte record of this species. Under the name *Pseudotynx* [sic] *philippensis mindanensis*, Rabor (1938) wrote of it that it was much darker than typical *P. p. philippensis*. The species remained uncollected on Leyte until Rabor obtained an adult female (USNM) at Tambis on May 14, 1964. This specimen is a good match in color for a female from Mindanao (and thus very different from the pale nominate race figured by duPont, 1971:173), but it is distinctly smaller-billed. The length (chord from base of bill at skull to bill tip) is 52 mm. versus 58, depth at nostril 28 mm. versus 30, and width at nostril 18 mm. versus 21. This large owl is so rarely collected that it is doubtful whether it will ever be possible to decide whether there is geographic variation within *mindanensis*.

*Ninox philippensis philippensis* Bonaparte, 1855

Collected by Whitehead, Rabor 1937, and Rabor 1964. The adult female and nestling male collected by Rabor in 1937 are no longer extant. I have not examined Whitehead's one specimen, but Ogilvie-Grant (1897:222) stated that it agreed perfectly with Luzon specimens (= *philippensis* topotypes). The Rabor male in the FMNH (Tambis, May 20) is slightly more chocolate-brown, less rufous than four Luzon males that were also collected in the 1960's. Its wing length of 172 falls right in the range of Luzon males (167, 169, 177, 179). Two additional Rabor males in the USNM (Tambis, May 4; Santa Cruz, June 19) have wing lengths of 168 and 169; the USNM lacks Luzon material for color comparisons. The one extant specimen from Samar (actually the satellite island of Buad), a poor skin, also agreed with Luzon material as far as I could tell (Parkes, 1965a:54).

## FAMILY PODARGIDAE FROGMOUTHS

*Batrachostomus septimus septimus* Tweeddale, 1877

The specimen collected by Rabor in 1937 was the first Leyte record, and he is still the only collector to have obtained this species. He took 10

specimens in the Mount Lobi and Mount Kabalanti-an regions in 1964; of these, six are in the USNM, two in the FMNH, and two in the UMMZ.

### FAMILY CAPRIMULGIDAE NIGHTJARS

#### *Eurostopodus macrotis macrotis* (Vigors, 1831)

Rabor collected a pair of Eared Nightjars in 1937, constituting the only Leyte record. He found no appreciable difference between these birds and specimens from Luzon and Mindanao (Rabor, 1938).

#### *Caprimulgus macrurus manillensis* Walden, 1875

Rabor is the only collector to have taken the Long-tailed Nightjar on Leyte. His 1937 male was destroyed in 1945. On May 25, 1964 he collected another male at Buri, Mount Lobi (USNM). The species is known from Samar only from sight records, which were assigned to *C. m. manillensis* by Rand and Rabor (1960:388). Among Philippine polytypic species that have separate races on Luzon and Mindanao, the populations of Samar and Leyte are sometimes referable to the southern rather than to the Luzon subspecies. Rabor's USNM specimen was compared to a small series of *manillensis*, of which it matched only the darkest extreme. Unfortunately, the USNM has only a juvenile specimen of *C. m. delacouri* Hachisuka, 1931 from Mindanao. The Rabor specimen is here considered to be a dark individual of *manillensis*, but the subspecific identity of Samar and Leyte populations should be reinvestigated if more material becomes available.

### FAMILY APODIDAE SWIFTS

#### *Collocalia troglodytes* G. R. Gray, 1845

Collected only by Whitehead.

#### *Collocalia esculenta marginata* Salvadori, 1882

Two USNM specimens collected by Rabor, a male from Ma-alngon on May 30 and a female from Bulog on June 30, 1964, represent the only Leyte record of this swiftlet.

#### *Cypsiurus batiensis pallidior* (McGregor, 1905)

Two females, collected by Holder at Limon on November 4 and 10, 1945 constitute the only Leyte record and form the basis for the inclusion of Leyte in the range of the Palm-Swift by duPont (1971:188). The specimens were originally identified for the University of Arkansas by A. L. Rand in 1952, prior to their exchange to CM.

Brooke (1972) has shown convincingly that the Asian Palm-Swift is not conspecific with the African *C. parvus*, with which it had generally been placed.

### FAMILY HEMIPROCINIDAE TREE-SWIFTS

#### *Hemiprocne comata major* (Hartert, 1895)

Collected by Rabor 1937, Holder, Alcasid and Celestino, Caliwag, and Rabor 1964. Meyer de Schauensee and duPont (1962:157) overlooked Rabor's published record (1938) in stating that Caliwag's three specimens from Dagami were the first for Leyte. Unpublished records include two taken by Holder at Limon on November 4, 1945; four taken by Alcasid and Celestino at Patok on July 25 and 26 and August 4, 1961; a pair taken by Rabor (USNM) at Ma-alngon on May 28, 1964; and one taken on Mount Kabalanti-an, also by Rabor (FMNH), on June 30, 1964. The July 26 specimen taken by Alcasid and Celestino is a female in body molt and is labelled "Breeding."

### FAMILY TROGONIDAE TROGONS

#### *Harpactes ardens linae* Rand and Rabor, 1959

Collected by Whitehead, Bartsch, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. The material taken by Alcasid and Celestino consists of eight specimens from Patok and Balinsasayao, collected between July 10 and August 4, 1961. Rabor collected 20 in the Mount Lobi and Mount Kabalanti-an areas; of these, 14 are in the USNM, four in the FMNH, and two in the DMNH.

### FAMILY ALCEDINIDAE KINGFISHERS

#### *Alcedo atthis bengalensis* Gmelin, 1788

Collected only by Everett.

#### *Ceyx argentatus flumenicola* Steere, 1890

Collected by Everett, Steere, Rabor 1937, Alcasid and Celestino, and Rabor 1964. In addition, Whitehead (1899:385) saw but did not collect this species on Leyte.

Descriptions in the literature do not mention any difference in dorsal color between *flumenicola* and nominate *argentatus*. The bluish white dorsal feathers, especially the upper tail-coverts, of Samar and Leyte *flumenicola* have a deep, rich blue spot at the base, but this is turquoise in *argentatus* from Mindanao. Measurements of the culmen (from base) presented by Rand and Rabor (1960:338, 390) of Bohol and Samar specimens, plus my own measurements of Leyte birds and those of Leyte and Samar birds in the BMNH kindly made for me by I. C. J. Galbraith, show that individuals with long bills appear to be more frequent in the Leyte population; about 35 per cent of Leyte individuals had bills of 40 mm. or longer, while this bill length is attained by only about 6 per cent of the individuals from the other islands. The mean for Leyte birds, however, is only about 1 mm. greater than that for the Samar specimens.



Alcasid and Celestino collected a single specimen in very worn plumage at Balinsasayao on July 12, 1961. Rabor collected two at Tambis on May 3 and 7 (FMNH) and eight at Santa Cruz from June 14–18 and on July 9, 1964 (2 FMNH, 5 USNM, 1 DMNH).

***Ceyx melanurus samarensis* Steere, 1890**

Collected by Steere, Rabor 1937, Alcasid and Celestino, and Rabor 1964. This species appears to be exceptionally individually variable in size, at least in bill length. Rabor (1938) stated that his one Leyte male had a culmen 39 mm. long, whereas a male from Samar measured 30 mm. However, a pair from Samar in CM measure ♂ 37 mm., ♀ 38.5 mm. Three Leyte specimens measured 32.5, 37.5, and 40, with no correlation between size and sex.

Alcasid and Celestino collected a single male at Balinsasayao on July 10. Rabor obtained one specimen at Tambis on May 8 (USNM) and three in the Mount Kabalanti-an area on June 6, 20, and 30 (one each in the USNM, FMNH, and DMNH).

***Pelargopsis capensis smithi* (Mearns, 1909)**

Collected by Everett and by Rabor 1937.

***Halcyon chloris collaris* (Scopoli, 1786)**

Collected by Everett, Steere, Holder, Bivins, Alcasid and Celestino, Caliwag, and Rabor 1964. Previously unpublished records are as follows:

- 1 (sex?) 10 miles west of Palo, November 1945 (Bivins)
- 3 ad., 1 imm., no exact data (vicinity of Tacloban, mid-September to late November 1945) (Holder; two of these specimens are now at LSU)
- ad. ♀ July 6, ad. ♂ July 14, 1961, Balinsasayao (Alcasid and Celestino)
- ad. ♀ May 3, ad. ♂ May 19, 1964, Tambis (Rabor, USNM)

***Halcyon smyrnensis gularis* (Kuhl, 1820)**

Collected by Everett, Holder, Alcasid and Celestino, Caliwag, and Rabor 1964. The Holder specimen, taken 1 mile west of Palo, has label data as follows: "♀ Killed in jungle; eyes dark brn., feet pink; bill reddish brn." Alcasid and Celestino collected a female at Balinsasayao on July 5, 1961. Rabor collected nine for the USNM: an adult on May 18 and stubby-billed juveniles on May 17 and 26 at Mount Lobi and six adults in the Mount Kabalanti-an area from June 13–18. One individual of this species was banded in 1964 and three in 1966 at the MAPS station at Mahaplag (McClure and Leelavit, 1972:281).

***Halcyon winchelli nigrorum* Hachisuka, 1934**

Delacour and Mayr (1946:134) listed Leyte in the range of this species, but I know of no Leyte record prior to the single juvenile collected

by Alcasid and Celestino at Patok on July 19, 1961. Rabor subsequently took two specimens for the USNM: Ma-alngon, May 28, and Bulog, July 3, 1964.

#### FAMILY MEROPIDAE BEE-EATERS

##### *Merops philippinus philippinus* Linné, 1766

Collected only by Everett.

##### *Merops viridis americanus* P. L. S. Müller, 1776

Collected by Everett, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino collected a male on July 5 and a female on July 10, 1961, both in exceedingly worn plumage. Rabor took an adult male and an immature male on June 23 (USNM) and an adult male on June 28 (FMNH) at Mount Kabalanti-an; these specimens, also, are very worn.

#### FAMILY CORACIIDAE ROLLERS

##### *Eurystomus orientalis cyanocollis* Vieillot, 1819

Collected by Everett, Steere, Whitehead, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino took a male in heavy molt at Patok on July 20, 1961. Rabor's 1964 specimens are as follows: adult ♀ (USNM), May 18, on Mount Lobi; and adult ♂ (USNM), adult ♀, first-year ♀ (FMNH), June 15-16, adult ♂ (FMNH), July 5, adult ♀ and ♀ just beginning first prebasic molt (USNM), July 8, all in the Mount Kabalanti-an region.

In an earlier paper (Parkes, 1965a:55) I erroneously stated that the spelling of the subspecific name of this form should be "*cyanicollis*" and not *cyanocollis* as Rand and Rabor (1960) had (correctly) spelled it. This subspecies, as presently constituted, is almost certainly a composite. Study of this species, however, is complicated not only by migration but by major color changes caused by wear. A thorough study with fresh material would probably show that there are as many as four well-differentiated populations within "*cyanocollis*."

#### FAMILY BUCEROTIDAE HORNBILLS

##### *Penelopides panini samarensis* Steere, 1890

Collected by Everett, Steere, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Whitehead (1899:389) saw but did not collect this species on Leyte. Lint and Stott (1948:45) saw four being prepared for a holiday feast in Baybay, September 21, 1945. Alcasid and Celestino col-

lected five specimens at Balinsasayao from July 6–10 and one at Patok on July 19, 1961; these specimens formed the basis of my discussion of the subspecific identity of the Leyte population of this species (Parkes 1971c:15). Rabor collected nine specimens in the Mount Lobi area between May 4–29 (2 FMNH, 6 USNM, 1 DMNH) and five in the Mount Kabalanti-an area from June 19–July 2, 1964 (2 FMNH, 3 USNM).

***Buceros hydrocorax semigaleatus* Tweeddale, 1878**

Collected by Everett, Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. There is also a sight record by Lint and Stott (1948:45) of two seen on October 2, 1945 "in the mountains between Ormoc and Burauen." Alcasid and Celestino collected adult females on July 27 and August 1 at Patok, and a juvenile female on July 13 at Balinsasayao. Rabor collected five specimens each in the Mount Lobi and Mount Kabalanti-an areas from May 4–July 6 (6 USNM, 4 FMNH).

**FAMILY CAPITONIDAE BARBETS**

***Megalaima haemacephala celestinoi* Gilliard, 1949**

Collected by Steere, Whitehead, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino collected four adults and a juvenile at Balinsasayao, July 10–15, 1961. Rabor collected adults at Buri on May 25 and 31 for the FMNH and at Buri on May 25 and Paniniklan on June 26 for the USNM.

When I reviewed geographic variation in this species (Parkes, 1960:336), I had seen only the single specimen each from Samar and Leyte on which *celestinoi* was based. Gilliard (1949) stated that *celestinoi* differed from *haemacephala* of Luzon only in size; I suggested that the small size differences "might disappear if larger series were measured." The four Leyte adults collected by Alcasid and Celestino fulfilled this prediction; the size difference between the two races is an average rather than an absolute one.

The additional material of *celestinoi* shows an overlooked color character, a decided wash of blue on the edges of primaries and secondaries and a bluer tinge to the green of the rectrices than in *haemacephala*. The lower flanks and under tail-coverts are more heavily washed with yellow in *celestinoi*; the dorsum is somewhat darker and of a bluer, less pure green. Moreover, the blue area of the nape is darker and extends farther posteriorly. On the other hand, the color of the ventral streaks is not as distinctive a character as I had thought earlier. In my 1960 paper, I synonymized *mindanensis* Rand, 1948 with *haemacephala*. After examining additional material, I now find that the deeper yellow throat of *mindan-*

*nensis* is sufficiently consistent to warrant recognition of the subspecies, but none of the other characters ascribed to it hold up in series. As I wrote in 1960, *celestinoi* is a much more strongly differentiated subspecies.

The descriptions of the subspecies of *Megalaima haemacephala* given by duPont (1971:213, 216) are based on the above notes, which were supplied to Dr. duPont while his book was in manuscript.

## FAMILY PICIDAE WOODPECKERS

### *Mulleripicus funebris fuliginosus* Tweeddale, 1877

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino collected two pairs at Patok on August 10, 1961, and Rabor took a single male (USNM) at Buri on May 27, 1964.

The type locality of *fuliginosus* is Surigao, Mindanao. Specimens from Samar and Leyte are identical to those from Mindanao except for a tendency to have the bill dark at the base rather than entirely ivory. DuPont (1971:217) states that this race lacks red on the head except for the malar region of males. This is true in general, but scattered red feathers in the frontal and loreal regions are not uncommon in both sexes.

### *Dryocopus javensis pectoralis* (Tweeddale, 1878)

Collected by Everett, Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. At their two localities in 1961, Alcasid and Celestino collected eight specimens between July 10 and August 2, of which three are juveniles and two are year-old birds. Rabor collected two specimens for the USNM; a first-year female at Tambis on May 17 and an adult male at Paniniklan on July 3.

### *Dendrocopos maculatus leytensis* (Steere, 1890)

Collected by Steere, Whitehead, Alcasid and Celestino, and Rabor 1964. Alcasid and Celestino obtained a single specimen at Patok on July 25, and Rabor took four (2 FMNH, 2 USNM) in the Mount Lobi region from May 11-28.

The cinnamon tinge of the forehead and nasal plumes mentioned in the otherwise highly inadequate original description of *leytensis* is quite evident in adult specimens I have examined; such a color is present in some specimens of *D. m. fulvifasciatus* (Hargitt, 1881) of Basilan and Mindanao, but in these it is darker and less contrasted with the black of the crown.

### *Chrysocolaptes lucidus rufopunctatus* Hargitt, 1889

Collected by Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino collected seven specimens



at Patok and Balinsasayao between July 18 and August 6. Rabor collected six specimens in the Mount Lobi area, May 13–29, and four in the Mount Kabalanti-an area, June 14–July 6. One specimen from each area is in the FMNH; the rest are in the USNM.

Samar and Leyte specimens are identical; the type locality, Panaon, is a satellite island at the southern tip of Leyte.

#### FAMILY EURYLAIMIDAE BROADBILLS

##### *Eurylaimus steerii samarensis* (Steere, 1890)

Collected by Whitehead, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino obtained a fine series of 12 specimens at Patok, July 24–August 9. Rabor collected two at Buri for the USNM, May 27 and 28. This species shows a decided color change with museum age. Samar and Leyte specimens in the AMNH taken in 1886 and 1896 are much paler, more raspberry colored and less purplish above than Samar specimens from 1957 and Leyte specimens from 1961.

#### FAMILY PITTIDAE PITTAS

##### *Pitta erythrogaster erythrogaster* Temminck, 1823

The first Leyte specimen of this species was collected by K. W. Prescott when it flew aboard a naval vessel anchored 2–4 miles offshore in Leyte Gulf on July 4, 1945. When I called Prescott's attention to the importance of this specimen (which is now in the UMMZ), I knew of no specimen from Leyte itself, and Prescott's paper (1973) is thus accurately titled "First report of *Pitta e. erythrogaster* from Leyte." There is, however, one specimen taken on land—by Rabor at Tambis on May 8, 1964 (USNM)—unknown to me when I wrote Prescott.

This species is clearly migratory within the Philippines. Large numbers are obtained at Dalton Pass, Nueva Vizcaya, Luzon, a well-known concentration point for migratory birds; 1885 were banded there in the period 1964–1970 (McClure and Leelavit, 1972:261). USNM specimen no. 233444 from Manila Bay, Luzon, November 1908, bears the following label notes by the collector, Theodore W. Richards: "This bird and several others of same flew into ship search light while U. S. S. Kansas was engaged in night target practice." This is an interesting historical precedent for Prescott's Leyte Gulf record.

##### *Pitta sordida sordida* (P. L. S. Müller, 1776)

This widely distributed Philippine species is known from Leyte only through a sight record by Rabor (1938).

***Pitta steerii coelestis* Parkes, 1971**

This species was originally known from Leyte only from a female in first prebasic molt collected by Alcasid and Celestino at Patok on July 28, 1961. It was among the specimens examined during the preparation of the original description of *coelestis* (Parkes, 1971b). Rabor subsequently collected a specimen at Buri on June 6 (FMNH) and one each at Ma-alngon on June 5 and Bulog on July 5 (both USNM). The USNM specimens are worn and do not show the characters of *coelestis* well.

### FAMILY HIRUNDINIDAE SWALLOWS

***Hirundo rustica gutturalis* Scopoli, 1786**

Oddly enough, this Palaearctic species, an abundant winter visitor to the Philippines, has been collected on Leyte only by Holder. He collected two specimens at Tacloban on September 28, 1945, of which one is referable to this, the common wintering subspecies in the Philippines, and the other to the next form.

***Hirundo rustica saturata* Ridgway, 1883**

One specimen, collected by Holder at Tacloban on September 28, 1945. For a discussion of the taxonomy and nomenclature of Barn Swallows wintering in the Philippines, see Parkes, 1971c:18.

***Hirundo tahitica javanica* Sparrman, 1789**

*Hirundo javanica* Sparrman, Mus. Carlsonianum, fasc. 4, no. 3, 1789: pl. 100 (Java).

Collected only by Everett. Both Peters (1960:108) and duPont (1971:233) used the name *H. j. abbotti* (Oberholser, 1917), the type locality of which is Pulo Mangan in the Anamba Islands, for the Philippine population of the Pacific Swallow. As stated earlier (Parkes, 1971c:19), I cannot separate Philippine examples from those from Java and therefore use the earliest available name, as above.

### FAMILY CAMPEPHAGIDAE CUCKOOSHRIKES

***Coracina striata boholensis* Rand and Rabor, 1959**

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino obtained an exceedingly useful series of 18 specimens, which illustrate a number of age/sex/molt variations. Rabor collected nine in the Mount Lobi region and eight in the Mount Kabalanti-an region (2+4 FMNH, 7+4 USNM). Among these are two females taken on May 16 (USNM) and May 17 (FMNH) in the very rarely collected full juvenal plumage.

Meyer de Schauensee and duPont (1962:160) assigned their eight Caliwag specimens to *boholensis* without having made direct comparisons with Bohol birds. Their identification was correct, but they relied on the character of closeness of barring of the underparts given in the original description of *boholensis*. As I have previously indicated (Parkes, 1971c:19), this character is not consistent and is not the best character for distinguishing *boholensis* from *kochii* of Mindanao (with which Leyte birds had been identified before Rand and Rabor described *boholensis*).

***Coracina morio ripleyi* Parkes, 1971**

Collected by Alcasid and Celestino, Caliwag, and Rabor 1964. One of the three specimens collected at Patok by Alcasid and Celestino was selected as holotype of this subspecies; I also examined the three Leyte birds taken by Caliwag preparatory to the description of *ripleyi* (Parkes, 1971c:21). I have subsequently seen the single specimen collected by Rabor at Paniniklan on June 25, 1964.

***Lalage melanoleuca minor* (Steere, 1890)**

Collected by Whitehead and by Rabor 1964. Rabor's series, all in the USNM, consists of an adult male from Tambis, May 20; a subadult male from Paniniklan, June 25; and an adult male and female from the same locality, June 26.

***Lalage nigra chilensis* (Meyen, 1834)**

Collected by Everett, Holder, Alcasid and Celestino, and Caliwag. Holder's specimen was taken at Tacloban on October 30, 1945 and that of Alcasid and Celestino at Balinsasayao on July 7, 1961.

This subspecies occupies a range including the entire Philippine archipelago and Borneo. Within this area I have been able to detect no geographic variation in color. There is one size trend, a north to south increase in bill size, manifested especially in width (measured at the nostrils). Using males only, eight from Luzon averaged 5.81 mm. in this dimension; seven from main islands south of Luzon (Leyte, Negros, Mindanao, and Basilan) averaged 6.29 mm.; three from the Sulus averaged 6.33; and one from Borneo measured 7 mm. There is insufficient basis here for any subdivision of *chilensis*.

***Pericrocotus flammeus leytensis* Steere, 1890**

Collected by Steere, Whitehead, Alcasid and Celestino, and Rabor 1964; sight record published by Rabor (1938). Alcasid and Celestino collected one adult male, one year-old male, one male just completing its first prebasic molt, and three adult females, all between July 4 and August 4, 1961. Rabor collected two for the FMNH on Mount Kabalanti-an: a male on June 20 and a female on July 4. For the USNM he collected a pair in

the same area on June 22 and, in the Mount Lobi area, a female on May 20 and a male in first prebasic molt, with much juvenal feathering remaining, on May 30.

### FAMILY DICRURIDAE DRONGOS

#### *Dicrurus hottentottus samarensis* Vaurie, 1947

Collected by Steere, Bartsch, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Meyer de Schauensee and duPont (1962) listed Caliwag's Leyte specimens under the name *striatus* Tweeddale, 1877. Only two of these had measurable tails; these were 96 and 97 mm. long. These measurements accord well with my figures (Parkes, 1971c:24) of 90–99.5 mm. for *samarensis*, with a range of 100–111.5 mm. for *striatus*. Tails of 12 measurable adults from Rabor's Leyte collection in the FMNH, not seen prior to my 1971 paper, ranged between 89 and 99 mm.

Alcasid and Celestino collected an excellent series of 15 specimens of this drongo, and Rabor obtained 16 for the FMNH. Six of this combined series are immatures in which no spangled feathers have yet appeared (males—May 12, June 1, and July 4, 7, and 24; female—July 28). Vaurie (1949:280) states that in many forms of the *Dicrurus hottentottus* super-species the immature birds have the axillary feathers tipped with white. That this is not a useful age character in *samarensis* is shown by the fact that only two of the six young birds mentioned show even a single white spot on an axillary feather. The 32 USNM specimens collected by Rabor are all adults (spangled) except for one unsexed stub-tailed juvenile from Tambis, collected on May 22.

### FAMILY ORIOLIDAE ORIOLES

#### *Oriolus xanthonotus samarensis* Steere, 1890

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, and Rabor 1964. Alcasid and Celestino obtained a series of 12 specimens from Patok and Balinsasayao between July 6 and August 12. Rabor's series of 11 (8 USNM, 3 FMNH) from Mount Lobi and Mount Kabalanti-an, taken between May 16 and July 4, are mostly worn and stained, but some had begun the prebasic molt.

Rand and Rabor (1960:362) stated that *samarensis* and *O. x. basilanicus* Ogilvie-Grant, 1896 were similar except for the color of the inner webs of the wing quills. The more complete analysis of the differences between these races published by duPont (1971:249) was based on my study.

Rand and Rabor (1960:307, 362) assigned a specimen from Mount Malindang, at the base of the Zamboanga Peninsula of western Mindanao, tentatively to *O. x. basilanicus*, and a specimen from "eastern



Mindanao" (locality not specified) to *samarensis*. DuPont (1971:248–249) followed this separation, assigning *basilanicus* to western Mindanao and *samarensis* to eastern Mindanao. I have not examined specimens from easternmost Mindanao, where populations indistinguishable from *samarensis* may occur, but I can state that the influence of *basilanicus* extends well into central Mindanao. A specimen from Iligan City, across Iligan Bay (= east) from the Zamboanga Peninsula, is typical *basilanicus*. A series of six specimens from Mount Katanglad, north-central Mindanao, is intermediate but somewhat closer to *basilanicus*. Four specimens from Tupi, Cotabato Province, southern Mindanao, are nearest *basilanicus* in all characters, being only faintly less gray on the primary edgings and yellower on the underside of the wing.

### *Oriolus chinensis yamamurae* Kuroda, 1927

Collected by Everett, Steere, Celestino, Rabor 1937, Holder, Alcasid and Celestino, Caliwig, and Rabor 1964. One was banded at the MAPS station at Mahaplag in 1964 (McClure and Leelavit, 1972:281). One of the five specimens collected by Holder at Tacloban and vicinity has been exchanged to the University of Connecticut. Alcasid and Celestino took four at Balinsasayao from July 6–10 and two at Patok on August 12 and 22. Rabor collected 34 in the Mount Lobi and Mount Kabalanti-an regions (20 USNM, 14 FMNH) between May 3 and July 19. Of these, all are adults except for three USNM specimens: a stub-tailed juvenile male from Tambis (May 6) and two full-grown juvenile females from Malinao (July 8).

DuPont (1971:250–251) unites all Philippine populations of this oriole under the name *O. c. chinensis* Linné, 1766. I prefer to recognize three subspecies, as explained in an earlier paper (Parkes, 1965a:62–64). Leyte birds match those from Basilan, type locality of *yamamurae*.

## FAMILY CORVIDAE CROWS

### *Corvus macrorhynchos philippinus* (Bonaparte, 1853)

Collected by Everett (record overlooked by McGregor, 1909), Celestino, Holder, and Rabor 1964. Holder took a male at Tacloban on October 27, 1945, and Rabor took a pair for the USNM at Santa Cruz on July 9, 1964.

## FAMILY SITTIDAE NUTHATCHES

### *Sitta frontalis lilacea* (Whitehead, 1897)

Collected by Whitehead, Rabor 1937, and Rabor 1964. There is no published record as to how many specimens of this nuthatch Whitehead

collected on Leyte. I have seen three of his specimens in the AMNH, plus those collected by Rabor in the Mount Lobi and Mount Kabalanti-an areas (4 USNM, 4 FMNH), May 15–19 and 27, June 4, and July 1, 1964.

Delacour and Mayr (1946:219–220) considered as “doubtfully distinct from *lilacea*” the races *apo* (Hachisuka, 1930; Mindanao), *insignis* (Hachisuka, 1930; Negros), and *cebuensis* (Hachisuka, 1930; Cebu). Use of the name “*lilacea*” in the above context was an obvious *lapsus*, as they had, in the same account, already attributed the Cebu and Negros populations to *S. f. “aenochlamys”* [= *oenochlamys*] (Sharpe, 1877). Both Greenway (1967:143) and duPont (1971:257) agree in synonymizing *insignis* and *cebuensis* with *oenochlamys*.

In examining the Samar and Leyte specimens in the AMNH, I had occasion to look into the validity of *apo* and of *zamboanga* Rand and Rabor, 1957, which was described after the publication of Delacour and Mayr’s book. Rand and Rabor (1960:434–435) reviewed the Philippine subspecies of this nuthatch, but my findings differ from theirs in several respects. My measurements support theirs in indicating that both *apo* and *zamboanga* have somewhat longer wings than *lilacea*. In color, however, I find both of these races much less distinct than stated by Rand and Rabor. According to these authors, the upperparts of *apo* were more like those of Negros specimens of “*aenochlamys*” than those of Samar *lilacea* (i.e., had less lilac on the foreback), while the underparts of *apo* were said to be paler than those of *lilacea* (but said to be *darker* than *lilacea* by duPont, 1971). I find that some specimens of *apo* are fully as dark as *lilacea*, and that the *only* consistent color difference lies in *lilacea*’s having a slight trace of blue below the eye, lacking in *apo*. As for *zamboanga*, said by its describers to be the darkest subspecies, I find this, too, to be a weak race. The five Zamboanga specimens in the AMNH have underparts darker than most (all except the darkest) *apo*; but, contrary to Rand and Rabor, they are no darker below than *lilacea*. The upperparts, too, are *slightly* darker than *apo*, but there is no consistently “greater amount of lilac wash on hind neck and foreback.” The only consistent difference between *zamboanga* and *lilacea* (other than the slightly larger size of the former) is the presence in *lilacea* of a blue spot below the eye. There is no size difference between *apo* and *zamboanga*; these two forms differ *only* in the somewhat darker average color of the latter. The descriptions of the various races given by duPont (1971) should be adjusted accordingly.

#### FAMILY RHABDORNITHIDAE PHILIPPINE CREEPERS

##### *Rhabdornis mysticalis minor* Ogilvie-Grant, 1896

Collected by Steere, Whitehead, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino obtained three specimens: a female on

July 10 at Balinsasayao, labelled "breeding," a male on July 13 at Balinsasayao, and a male on August 8 at Patok. Rabor took 16 in the Mount Lobi and Mount Kabalanti-an areas (7 FMNH, 9 USNM) between May 7 and July 17.

***Rhabdornis inornatus* subsp.**

The first report of this species on Leyte was published by Ripley and Rabor (1968:35), based on Rabor's 1964 collections, but the first Leyte specimens were the two taken at Patok by Alcasid and Celestino on July 23 and August 7, 1961. Ripley and Rabor stated that their Leyte series agreed in size and color with *R. inornatus inornatus* from Samar. Six of Rabor's 1964 specimens are in the FMNH, where I compared them with 18 specimens from Samar. Although it is true that there is no size difference between Leyte and Samar birds, they are readily separable in a number of color characters. The Leyte race may be called:

***Rhabdornis inornatus leytensis* new subspecies**

Type FMNH 276532, adult ♀, collected at Tambis, Burauen (Mount Lobi range), Leyte, Philippines, on May 3, 1964, by D. S. Rabor (collector's no. 41802).

DIAGNOSIS: Nearest *R. i. inornatus* of Samar, but crown somewhat paler gray; brown of dorsum slightly less intense; black facial mask less extensive, not including the lores, which are gray like the crown; posterior edge of facial mask breaking into brown and white, not black and white longitudinal streaks; light supraocular line less contrasting and not extending forward of eye, whereas in *inornatus* it forms the upper margin of the black loreal extension of the facial mask; lesser wing-coverts (which have white shaft streaks in both races) brown to dark brown rather than blackish brown to black; cinnamon-buff of under wing-coverts and inner margins of primaries distinctly paler.

RANGE: Island of Leyte, Philippines.

ETYMOLOGY: Named for the island it inhabits.

SPECIMENS EXAMINED (total): *R. i. inornatus*, Samar, 23; *R. i. leytensis*, Leyte, 21 (the series of 13 Rabor specimens in the USNM was not directly compared with Samar specimens, but they matched the preceding description, which was based on the FMNH material). Also, series in the AMNH and FMNH of the much larger *grandis* of Luzon and the very gray *rabori* of Negros.

**FAMILY TIMALIIDAE BABLERS**

***Ptilocichla mindanensis minuta* Bourns and Worcester, 1894**

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, and Rabor 1964. Alcasid and Celestino took a female at Balinsasayao on July

12. Rabor collected seven at various localities between May 4 and July 3 (5 USNM, 2 FMNH). As stated by Rabor (1938), Leyte specimens are indistinguishable from those from Samar. A nestling from Samar (AMNH 589259), when compared with one of similar age from Mount Matutum, Cotabato, Mindanao (AMNH 708669), shows that the color differences between *minuta* and *mindanensis* are evident even in juvenal plumage.

Current literature assigns all of Mindanao to the nominate race and confines *basilana* Steere, 1890 to the island of Basilan. Two specimens from Mount Sugarloaf, in the eastern part of the Zamboanga Peninsula of western Mindanao (AMNH), are intermediate between six *mindanensis* from Cotabato Province and eight *basilana* from Basilan. The tail of *basilana* is brown, that of *mindanensis* black, and that of the Mount Sugarloaf birds intermediate in color. The latter also approach *basilana* in their generally ruddier color, with ventral streaking less black than in *mindanensis*. They show no indication of the light dorsal streaks of *basilana*. It is quite possible that Streaked Ground-Babblers from farther west on the Zamboanga Peninsula might be referable to *basilana*.

#### *Stachyris plateni pygmaea* (Ogilvie-Grant, 1896)

The four specimens collected by Whitehead constituted the only Leyte record of this species until 1964, when Rabor took one at Tambis on May 13 (FMNH), two at Tambis on May 14 (USNM), and two at Mount Kabalanti-an on June 21 and 24 (FMNH). The FMNH specimens do not differ from a long series from Samar in that museum.

#### *Stachyris capitalis nigrocapitata* (Steere, 1890)

Collected by Steere, Whitehead, Alcasid and Celestino, and Rabor 1964. I have already shown (Parkes, 1963) that the inclusion of "southern Leyte" in the range of *S. c. capitalis* (Tweeddale, 1877) by Delacour and Mayr (1946) and other authors was based on an Everett specimen misidentified by Tweeddale (1878:342); the alleged Leyte specimen of *capitalis* is in fact an example of *Macronous striaticeps*. Attribution of *S. c. nigrocapitata* to "Northern Leyte" (Delacour and Mayr, 1946) rests part on the supposed presence of *S. c. capitalis* in southern Leyte. There is no reason to suppose that *S. c. nigrocapitata* does not occur throughout Leyte in proper habitat.

Unpublished records include a specimen taken at Balinsasayao on July 13, 1961, by Alcasid and Celestino; the same collectors obtained a "nesting" adult female and two juveniles at Patok on July 26. Rabor collected specimens in the Mount Lobi area on May 13 and 25 (USNM) and at Mount Kabalanti-an on June 3, 24, and 25 and on July 1 (two). Of the latter, three are in the FMNH and two in the USNM.



***Macronous striaticeps mindanensis* Steere, 1890**

Collected by Everett (the specimen mistakenly reported as *Stachyris c. capitalis*), Steere, Whitehead, Alcasid and Celestino, Caliwag, and Rabor 1964. In addition, one was banded at the MAPS station at Mahaplag in 1964 (McClure and Leelavit, 1972:281).

The seven specimens taken by Caliwag were erroneously reported as the first for Leyte by Meyer de Schauensee and duPont (1962:164) under the name "*cummingsi*" [= *cumingi*] Hachisuka, 1934. In an earlier paper (Parkes, 1965a:58-60), I synonymized *cumingi* with *mindanensis*, but recognized *mearnsi* Deignan, 1951 as a race of the Mindanao highlands and *boholensis* Hachisuka, 1930 as a weakly characterized race endemic to Bohol. I have subsequently examined the series of specimens from Samar, Leyte, and highland and lowland Mindanao at the DMNH. Although all of the trends mentioned in my 1965 paper are present in this material, I feel that no great disservice is done by placing all of these names in the synonymy of *mindanensis*, as has been done by duPont (1971:269).

Alcasid and Celestino's unpublished material consists of 11 specimens collected at Balinasayao and Patok between July 10 and August 2, 1961. Rabor collected no less than 72 (48 USNM, 24 FMNH) at virtually all of his collecting localities between May 2 and July 8, 1964.

***Micromacronus leytensis leytensis* Amadon, 1962**

The type series of this striking and unexpected new genus and species was collected by Alcasid and Celestino at Patok on August 11, 1961. A duller and slightly larger subspecies was subsequently described from Mount Matutum, Cotabato Province, Mindanao, by Ripley and Rabor (1968).

When studying the Alcasid and Celestino collection at the AMNH, I paid special attention to *Micromacronus*, as two of the four specimens were to be returned to the PNM. It should be said at the outset that the color reproduction of the plate accompanying the original description (Amadon, 1962a) is very misleading. The specimens are of a much richer, more brilliant yellow (less greenish), especially on the underparts, than is indicated by the plate.

Amadon stated that the relationships of *Micromacronus* would have been difficult to ascertain but for the *Macronous*-like specialized plumes of the back and sides. He thought it probable that it would have been considered a leaf-warbler (= *Phylloscopus*). Ripley and Rabor (1968) went so far as to say, "Perhaps only the specialized feathers prevent it from being thought of as a uniquely plumaged leaf-bird (Aegithinidae)." My studies of the type series indicate that Amadon was perfectly correct in his original assignment of *Micromacronus* to the babblers, adjacent to *Macronous* (= *Macronus* of Amadon's usage). Although Amadon stated accurately that only *M. ptilosus* among *Macronous* species has specialized

plumes on the "sides" (= flanks) as well as on the back, there is also a *tendency* toward such specialization (the elongate and filamentous condition) in the Philippine species *M. striaticeps*, especially noticeable in the nominate race from Basilan (see plate 58 in duPont, 1971).

In *Macronous ptilosus* the juvenile has a pale bill (at least the lower mandible and the tip of the upper), as in reference specimen AMNH 590553, Deli, Sumatra, May 11, 1917. The rest of the AMNH series of this species suggests that remnants of bill paleness may indicate immaturity (= first-year birds). The two males of *Micromacronus leytensis* marked on labels as having had enlarged testes both have solidly black bills. The other male (which is not annotated as to testis size) and the female both have the lower mandible pale, although this is not mentioned in Amadon's description nor shown on Singer's accompanying plate. After having described the plumage color differences shown by the one female, Amadon stated, "Mr. H. G. Deignan pointed out to me that inasmuch as the sexes are usually alike in babblers, it is possible that the differences just noted indicate immaturity rather than sex." However, both of the pale-mandibled birds are molting out of a plumage that was very whitish on face and underparts, but the individual sexed as male has incoming feathers that are much brighter (underparts) than the equivalent incoming feathers of the female—fully as bright, in fact, as those of the adult males. The female (whose molt is further advanced) is assuming a duller yellow, buffy-faced plumage, with enough traces left of the previous plumage to show that it resembled that of the male. A few dorsal feathers and tertials that remain indicate that the juvenal plumage is probably rather grayish or brownish dorsally, not greenish. Sexual dimorphism, then, does indeed exist in *Micromacronus l. leytensis*, as early as the first basic plumage. These findings on the color of the juvenal plumage and the sexual dimorphism were later confirmed by Ripley and Rabor (1968) for *M. l. sordidus*, the type series of which includes one juvenile. These authors state that the bill of *sordidus* is pale at the base rather than all black. This appears to be a subspecific character, although it is conceivable that the type series of five *sordidus* (other than the juvenile) might all have been first-year birds.

It is noteworthy that neither Caliwag nor Rabor, who visited the Mount Lobi area after Alcasid and Celestino had collected the type series of four out of a flock of about 10, were able to find *Micromacronus leytensis*.

## FAMILY PYCNONOTIDAE BULBULS

### *Pycnonotus urostictus atricaudatus* Parkes, 1967

Collected by Steere, Whitehead (*vide* McGregor [1909], but Ogilvie-Grant [1897], in reporting on Whitehead's Samar and Leyte collections,

does not specify on which island or islands this species was obtained), Alcasid and Celestino, Caliwag, and Rabor 1964. Rabor (1938) also published a sight record, and Lint and Stott (1948) published a nesting record from San Roque, Leyte, in March 1946.

The six specimens collected by Alcasid and Celestino at Patok between July 18 and August 12, 1961 formed part of the series upon which this subspecies was described. Other unpublished material is that of Rabor, who took 17 at Tambis from May 11–27 (6 FMNH, 11 USNM), plus one each at Buri, Santa Cruz, and Bulog (all USNM).

### ***Pycnonotus goiavier samarensis* Rand and Rabor, 1960**

Collected by Everett, Steere (overlooked by McGregor [1909]), Whitehead, Bartsch, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Leyte was inadvertently omitted from the range of this subspecies by duPont (1971:278), although Caliwag's specimens were correctly attributed to *samarensis* by Meyer de Schauensee and duPont (1962:163, where the species name is given as "*goiaver*"). For a full discussion of the characters of this subspecies, see Parkes, 1965a:56. Alcasid and Celestino collected an adult female and male at Balinsasayao on July 13 and 14, 1961. Rabor took 52 specimens (17 FMNH, 35 USNM) at Tambis in May 1964, and four at Santa Cruz (3 FMNH, 1 USNM) from June 15–20.

### ***Hypsipetes philippinus saturatior* (Hartert, 1916)**

Collected by Everett, Steere, Bartsch, Rabor 1937, Holder, Alcasid and Celestino, Caliwag, and Rabor 1964. In addition, 12 were banded in 1964 and 21 in 1966 at the MAPS station at Mahaplag (McClure and Leelavit, 1972:281).

Unpublished Leyte records include two collected by Holder 1 mile west of Palo on November 3, 1945; four collected by Alcasid and Celestino at Balinsasayao on July 8 and 10 and at Patok on August 5 (juvenile) and 9, 1961; and 57 taken by Rabor at his various 1964 collecting localities (20 FMNH, 37 USNM), of which a May 4 specimen from Tambis and a June 18 specimen from Santa Cruz, June 18, are juveniles.

This subspecies was synonymized with *H. p. philippinus* (J. R. Forster, 1795) by duPont (1971:279), but for reasons presented in an earlier paper (Parkes, 1965a:57), I recognize it as distinct. Although the subspecies was described from eastern Mindanao, its characters are most fully developed in the Leyte population.

### ***Hypsipetes everetti everetti* (Tweeddale, 1877)**

Collected by Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. The abundance of this species in the Mount Lobi area is indicated by the series obtained by recent collectors. Caliwag

took 21 (Meyer de Schauensee and duPont, 1962:163); Alcasid and Celestino took 26 (plus one at Balinsasayao), and Rabor took 30 (21 USNM, 9 FMNH). Rabor also collected 17 in the Mount Kabalanti-an area (9 USNM, 8 FMNH).

Rand and Rabor (1959) separated the Samar population of this species as *H. e. samarensis* and guessed that Leyte birds would probably belong to their new race. They reviewed the species again in 1969 and added Leyte to the range of *samarensis* without comment. Under *H. e. everetti* in this 1969 paper, Rand and Rabor state, "There is considerable variation in Mindanao birds, and this results in an overlap with Samar and Leyte series." The extent and origin of their Mindanao material is listed in neither the 1959 nor the 1969 paper. The type locality of *everetti* is Surigao, at the northeastern tip of Mindanao. Examination of the superb series of 110 specimens in the DMNH from various localities in Mindanao, Siargao (a large satellite island off Surigao), Dinagat (between Surigao and Leyte), Samar, and Leyte clearly shows that *samarensis* cannot be upheld. Individual variation within samples from single localities from each of these islands more than encompasses the alleged difference between "*samarensis*" and *everetti*. Additional comparisons were made at the USNM between 30 Leyte specimens and 20 recently collected Mindanao birds, and the same range of individual, nongeographic variation was found. I therefore consider *samarensis* Rand and Rabor, 1959 as a synonym of *everetti* (Tweeddale, 1877).

## FAMILY IRENIDAE LEAFBIRDS, FAIRY-BLUEBIRDS

### *Chloropsis flavipennis* (Tweeddale, 1878)

Collected by Alcasid and Celestino, Caliwag, and Rabor 1964. Meyer de Schauensee and duPont (1962:162) listed Caliwag's one Mount Lobi specimen as the first from Leyte, as they did not know of the three collected in the same area somewhat earlier in 1961 by Alcasid and Celestino. Furthermore, Ripley and Rabor (1968), in announcing Rabor's discovery of this species on Leyte, overlooked the record published by Meyer de Schauensee and duPont.

Ripley and Rabor (1968) concluded that Leyte birds linked those of Cebu (*flavipennis*) with those of Mindanao (*mindanensis* Salomonsen, 1953) to the extent that recognition of any subspecies was not practicable. I had already come to the same conclusion independently, using the AMNH and CM material. Rabor's USNM series consists of three specimens from Ma-alngon, Mount Lobi (May 28 and 30 [two]) and one from Paniniklan, Mount Kabalanti-an (June 28).



***Irena cyanogaster ellae* Steere, 1890**

Collected by Steere, Whitehead (specimens molting, discarded), Rabor 1937, Alcasid and Celestino, and Rabor 1964. Alcasid and Celestino's series from Balinsasayao includes an adult ♂ (July 15), an adult ♀ (July 22), and a pair with a stub-tailed juvenile (August 5). Rabor's series from his two general collecting areas consists of 27 adults (17 USNM, 10 FMNH) taken between May 2 and July 6, 1964.

This subspecies was described from Samar; I find no differences between Samar specimens and those from Leyte.

I take this opportunity to state that I place *Irena* (the fairy-bluebirds) here only for the reason of convenience in coordinating this paper with duPont (1971). I believe Wetmore (1960:19) to be correct in dissociating the fairy-bluebirds from the leafbirds. The latter take the name Chloropseidae; Wetmore tentatively places *Irena* in its own subfamily of the Oriolidae.

**FAMILY TURDIDAE THRUSHES*****Copsychus saularis mindanensis* (Boddaert, 1783)**

Collected only by Everett. Leyte was inadvertently omitted from the range of this form by duPont (1971:295). Although I have not examined any Leyte specimens, assignment to the subspecies *mindanensis* is logical, as it is found on the surrounding islands. The only other Philippine race of the species, *C. s. deuteronymus* Parkes, 1963, appears to be a Luzon endemic (Parkes, 1962b).

***Monticola solitarius philippensis* (P. L. S. Müller, 1776)**

This migrant has been collected on Leyte only by Everett and by Steere.

**FAMILY SYLVIIDAE OLD WORLD WARBLERS*****Megalurus palustris forbesi* Bangs, 1919**

This large, conspicuous, noisy, and widely distributed species has, surprisingly, been collected only twice on Leyte, both times by Rabor. His single 1937 female was destroyed in 1945, leaving the very worn adult male from Santa Cruz (USNM), taken June 16, 1964, as the only Leyte specimen. Grassland species are, in general, poorly represented in Leyte collections, as most collectors have concentrated on highland areas and forest birds.

***Megalurus timoriensis alopex* Parkes, 1970**

Collected by Holder, Alcasid and Celestino, and Rabor 1964. Holder's specimen, taken at the Tacloban airstrip on November 27, 1945, is the holotype of this recently described subspecies. Alcasid and Celestino also

obtained only one specimen. Rabor collected two at Tambis for the USNM: one unsexed bird on May 18 and one adult male on May 20, 1964. The May 18 bird is worn and faded, but the May 20 bird has a number of fresh feathers that show the rufescence typical of this race. They also have the short bills (16, 17 mm.) described for *alopez*, but it is not possible to verify the short tail of *alopez*, as most of the rectrices are missing from both specimens.

***Cisticola juncidis tinnabulans* (Swinhoe, 1859)**

A male collected by Holder at Tacloban on November 22, 1945 is the only Leyte record; as in the case of *Megalurus palustris*, this undoubtedly reflects undercollecting of the grassland habitat on Leyte.

***Cisticola exilis semirufa* Cabanis, 1872**

Collected by Bartsch and by Rabor 1964. Specimens of the two Philippine species of *Cisticola* have not uncommonly been misidentified in museum collections, so I made it a point to verify identifications of all Leyte specimens. Both Holder's *C. juncidis* and Bartsch's one *C. exilis* were collected at Tacloban; the two species are known to be syntopic as well as sympatric elsewhere in the Philippines. (For a discussion, see Parkes, 1971c:29-30.) Rabor took one specimen at Santa Cruz on July 9 for the FMNH and specimens at Tambis on May 3, 7, and 11 and at Malngon on May 26, 1964 for the USNM.

***Locustella fasciolata* (J. E. Gray, 1860)**

Rabor collected the first Leyte specimen of this migrant for the USNM at Buri, Mount Lobi, May 29, 1964.

***Phylloscopus olivaceus* (Moseley, 1891)**

Collected by Whitehead and by Rabor 1964. The latter took 23 in the Mount Lobi area in May (15 USNM, 8 FMNH) and three at Mount Kabalanti-an from July 1-6 (USNM). For a discussion of this species and its relatives, see Parkes, 1971c:30-34.

***Phylloscopus borealis borealis* (Blasius, 1858)**

Although the Arctic Willow-Warbler is an abundant wintering bird in the Philippines, with five subspecies represented, few specimens have been taken on Leyte. I have not examined Everett's single specimen, an October bird. Other specimens have been identified using the criteria presented by Vaurie (1954), as well as comparisons with identified specimens in the USNM. Three Leyte specimens in the USNM appear referable to the nominate race. These were collected by Rabor at Tambis on May 3, 15, and 16, 1964.

***Phylloscopus borealis hylebata* Swinhoe, 1860**

This small, rather yellowish race, with the first primary (of Vaurie's usage; = 10th or outermost primary) extending beyond the primary cov-

erts, is represented by a male collected by Holder at Tacloban, September 28, 1945, and a female (USNM) taken by Rabor at Tambis, May 3, 1964.

***Phylloscopus borealis transbaicalicus* Portenko, 1938**

One male taken by Rabor at Tambis on May 16, 1964 stands out from the rest of the series by its gray color and whitish eyestreak. These are characters of *transbaicalicus*, and the wing length of 63 mm. also matches measurements given by Vaurie (1954) for this race.

***Orthotomus atrogularis frontalis* Sharpe, 1877**

Collected by Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. This race was described from Zamboanga, Mindanao; I find no differences among specimens from Mindanao, Samar, and Leyte. Unpublished records include six specimens taken by Alcasid and Celestino at Patok from July 24–August 12, 19 taken by Rabor at Tambis (10 FMNH, 9 USNM) from May 2–June 16, 1964, and four more Rabor specimens, taken from Mount Kabalanti-an between June 14–21 (USNM).

***Orthotomus nigriceps samarensis* Steere, 1890**

McGregor (1909) attributes this species to Leyte as having been collected by Whitehead, but neither Ogilvie-Grant (1897) nor Whitehead (1899) specifically mentions Leyte specimens. I believe special mention would have been made had Whitehead in fact taken it on Leyte, as *samarensis* had previously been known only from Steere's type specimen from Samar. It may be assumed, therefore, that McGregor was in error and that Whitehead's entire series was from Samar. Consequently, the first specimens from Leyte are five collected by Alcasid and Celestino at Patok. Rabor, collecting in both the Mount Lobi and Mount Kabalanti-an areas, took eight specimens for the USNM and five for the FMNH.

Rand and Rabor (1960:352) stated that their five Bohol specimens were indistinguishable from their six Samar specimens (two of which were "immatures"). In comparing four from Bohol, seven from Samar, and four from Leyte, using adult males only, I find that Bohol specimens differ from Samar and Leyte birds collectively in averaging slightly darker, less yellowish green above, with broader olive flanks restricting the yellow median area of the underparts. However, the differences are slight, and one Samar specimen matches the Bohol birds, so no formal separation appears to be warranted.

**FAMILY MUSCICAPIDAE OLD WORLD FLYCATCHERS**

***Rhipidura superciliaris samarensis* (Steere, 1890)**

Collected by Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. The two specimens collected by Alcasid and Celestino (♀ Balinsasayao, July 7, 1961; ♂ [Patok], August 11, 1961)

are rather obviously grayer, both above and below, than a series of 14 Samar birds in the AMNH. The five collected by Rabor for the FMNH in the Mount Lobi and Mount Kabalanti-an regions were compared with long series of Bohol and Samar birds at the FMNH, but any possible geographic variation was obscured by the variation in skin preparation, mostly mediocre. The USNM has an additional eight Rabor Leyte skins, but insufficient comparative material from other islands.

Neither Delacour and Mayr (1946) nor duPont (1971) mentions sexual dimorphism in this species. McGregor (1909) mentions only a difference in the shade of blue of the dorsum in the nominate race (and by implication also in *samarensis*). The USNM series of seven ♂ and six ♀ of *samarensis* shows that males have a distinct wash of blue on the abdomen, whereas this area is much whiter (even pure white in some specimens) in females. This sexual difference in abdomen color appears to be a subspecific character of *samarensis*, as it does not hold true in the USNM series of six ♂ and five ♀ of *R. s. superciliaris*.

***Rhipidura javanica nigritorquis* Vigors, 1831**

Collected only by Holder, who took an adult female at Tacloban on October 25, 1945.

For a discussion of minor trends toward geographically correlated variation in this species in the Philippines, see Parkes, 1965a:60.

***Rhinomyias ruficauda samarensis* (Steere, 1890)**

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, and Rabor 1964. Alcasid and Celestino took two males at Patok on July 26 and August 5, 1961. Rabor collected a total of 30 at his various 1964 localities, of which 19 are in the USNM, 10 in the FMNH, and one in the DMNH.

As conjectured by Rand and Rabor (1960:433), who saw no Leyte specimens, birds from that island do not differ from those of Samar and eastern Mindanao. Variation on Mindanao needs reexamination, however. Rand and Rabor (1957) described *R. r. zamboanga*, an excellent race, and stated that *mindanensis* Mearns, 1909 was a synonym of *samarensis*. In their later paper (1960:432-433) they expanded on this statement and listed their material. They had only five specimens from all of Mindanao other than the Zamboanga Peninsula and placed these in *samarensis*. According to Rand and Rabor, "... one of the two most western specimens, the type of *mindanensis* from Pantar, falls in the middle of the range of variation of the Samar series and these birds are best included with it [*samarensis*]." As the other "most western" specimen was also from Pantar, it is apparent that the Pantar population must be variable, because only one of the two specimens from there was cited as inseparable from Samar birds. Pantar is just north of the northern end



of Lake Lanao, less than 50 miles from the base of the Zamboanga Peninsula. I would not question the separability of Pantar and Zamboanga birds were it not for the fact that I am unable to separate two recent specimens (AMNH) from Mount Matutum, Cotabato Province, in south-central Mindanao, from five recent specimens of *zamboanga*. When sufficient Mindanao material has been assembled to permit evaluation of individual variation, it may well indicate that *samarensis* is confined to the eastern part of the island, from the Gulf of Davao northward, and that the name *mindanensis* Mearns should be revived for the remaining Mindanao population of this species, with *zamboanga* as a synonym.

***Ficedula basilanica samarensis* (Bourne and Worcester, 1894)**

Collected by Whitehead and by Rabor 1964. A specimen taken by the latter at Mount Kabalanti-an on July 3 is in the DMNH, and specimens from the Mount Lobi region (May 17–June 6) are in the FMNH (two) and the USNM (three).

***Cyornis rufigaster philippinensis* Sharpe, 1877**

Collected only by Everett.

***Muscicapa griseisticta* (Swinhoe, 1861)**

Three specimens collected in 1964 by Rabor (USNM) at Tambis on May 2 (two) and 7 represent the first Leyte record of this well-known migrant.

***Culicicapa helianthea panayensis* (Sharpe, 1877)**

Collected by Whitehead and by Rabor 1964. The latter collected four specimens for the USNM: ♂ Tambis, May 2; ♂ ♀ Pana-on Peak, June 4; ♀ Bulog, July 1.

***Hypothymis azurea azurea* (Boddaert, 1783)**

Collected by Steere, Whitehead, Rabor 1937, Holder, Alcasid and Celestino, Caliwag, and Rabor 1964. Holder took an unsexed bird (♀ by plumage) in "jungle" at Tigbao on November 11, 1945. Alcasid and Celestino collected nine specimens at Patok and Balinsasayao, including a juvenile at the latter locality on July 15, 1961. Rabor took only one female (originally misidentified as *Rhipidura superciliaris*) at Mount Kabalanti-an on June 26, 1964 for the FMNH and one "♂" [= ♀] at Tambis, May 5, for the USNM.

***Pachycephala philippinensis apoensis* (Mearns, 1905)**

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. The series of 13 specimens collected by Alcasid and Celestino (Patok 12; Balinsasayao, 1) was part of my comparative material when I described *P. p. boholensis* (Parkes, 1966). Meyer de Schau-

see and duPont (1962:167) compared Caliwag's four Mount Lobi, Leyte, specimens with eight from Misamis Oriental Province, northern Mindanao. They found no color differences, but their Leyte specimens were shorter in both wing and tail. I compared 13 Leyte and 14 Samar birds with 12 from Mount Apo, Mindanao, and vicinity (topotypes of *apoensis*). My measurements confirm a slight average size difference, but with much more overlap than shown by the figures given by Meyer de Schauensee and duPont. On the other hand, the Leyte/Samar series was very variable in color, some being as pale in general coloration as the Bohol birds. As indicated in the original description, however, *boholensis* is consistently separable from all populations being called *apoensis* by the gray rather than green edges of the primaries. Only in body color do some Leyte/Samar birds bridge the gap between *apoensis* and *boholensis*.

After having made the above comparisons, I saw but did not study the series of 13 Leyte specimens in the FMNH and nine in the USNM collected by Rabor in the Mount Lobi and Mount Kabalanti-an regions between May 13 and July 31, 1964.

#### FAMILY MOTACILLIDAE WAGTAILS, PIPITS

##### *Motacilla cinerea robusta* (Brehm, 1857)

The Gray Wagtail, a winter visitor, has been collected on Leyte only by Everett. Although duPont (1971:355) says that the Yellow Wagtail (*M. flava*) "winters throughout the Philippines," it has yet to be recorded from Leyte.

##### *Anthus novaeseelandiae lugubris* (Walden, 1875)

Collected by Steere and by Rabor 1964. The latter collector took a single male for the USNM at Santa Cruz on June 15. The bird was in very worn plumage, just beginning the prebasic molt of body feathers.

##### *Anthus gustavi gustavi* Swinhoe, 1863

Collected only by Steere.

#### FAMILY ARTAMIDAE WOODSWALLOWS

##### *Artamus leucorhynchus leucorhynchus* (Linné, 1771)

Collected by Everett, Bartsch, Rabor 1937, Holder, and Rabor 1964. Holder obtained two at Tacloban on October 27, two at Tacloban on October 30, and one at 1 mile west of Palo on November 18, 1945. One of the October 27 and one of the October 30 specimens are now at LSU; the other October 27 specimen is at the Moore Laboratory of Zoology, Occidental College. Rabor collected three adults for the USNM: Ma-alngon, May 29; Santa Cruz, June 14; Malinao, July 8.

## FAMILY LANIIDAE SHRIKES

*Lanius cristatus lucionensis* Linné, 1766

Collected by Everett, Steere (record overlooked by McGregor [1909]), Bartsch, Holder, Bivins, and Rabor 1964. Holder collected three specimens, as follows: ♂ Tacloban, September 19; ♀ Tacloban airstrip, November 10; ♂ 1 mile west of Palo, November 16, 1945. Bivins collected a male at "Tanuan" (= Tanauan, just south of Palo on the east coast) on September 29, 1945. The label is annotated, "Death caused by round worms." Rabor collected an adult male for the USNM at Tambis on May 16, 1964. The specimen appears fresh and shows no molt.

*Lanius schach nasutus* Scopoli, 1786

Collected by Everett and by Caliwag.

## FAMILY STURNIDAE STARLINGS

*Aplonis panayensis panayensis* (Scopoli, 1783)

Collected by Everett, Alcasid and Celestino, Caliwag, and Rabor 1964. One was banded at the MAPS station at Mahaplag in 1964 (McClure and Leelavit, 1972:281). An individual of this species, banded on September 9, 1965 at Calatagan, Batangas Province, at the southwesternmost corner of Luzon, was recovered on December 31, 1965 at Sogod, southern Leyte, about 350 miles to the southeast (McClure, [1967]:142). Movements of this magnitude may help to explain the lack of geographic variation within the Philippines in this highly polytypic species (13 subspecies recognized by Amadon, 1962b). Alcasid and Celestino collected five specimens (ad. ♂, ad. ♀♀, im. ♂, im. ♀) at Balinsasayao between July 8 and 16, 1961. Rabor's entire 1964 series of 21 (15 USNM, 6 FMNH) was taken on July 8 at Malinao. The series contains eight ad. ♂♂, seven ♀'♀, one ad. sex?, one imm. ♂, and four imm. ♀♀.

*Sarcops calvus melanotus* Ogilvie-Grant, 1906

Collected by Everett, Steere, Bartsch, Rabor 1937, Holder, Bivins, Alcasid and Celestino, Caliwag, and Rabor 1964. Lint and Stott (1948:46) found a nest containing two young at the San Pablo airstrip on August 11, 1945. The young left the nest on October 5.

Unpublished specimen records include seven collected by Holder 1 mile west of Palo between October 28 and November 18, 1945 (one now at LSU); one collected by Bivins at Palo on November 1, 1945; four collected at Balinsasayao by Alcasid and Celestino from July 6-12, 1961; and 44 collected by Rabor at various of his 1964 collecting localities between May 2 and July 18 (30 USNM, 14 FMNH).

The most recent discussion of geographic variation in this species, with special reference to Leyte, will be found in Parkes, 1971c:41-42. In

that paper I unfortunately perpetuated the *lapsus* of Amadon (1962b:117) in spelling the subspecific name "*melanotus*."

### FAMILY NECTARINIIDAE SUNBIRDS

#### *Anthreptes malacensis griseigularis* (Tweeddale, 1877)

Rabor is the only collector to have obtained this species on Leyte. He stated (Rabor, 1938) that the five specimens, now no longer extant, from his earlier expedition were inseparable from a series from Samar. The only Leyte specimens in existence are a pair collected by Rabor at Ma-alngon on May 31, 1964 (USNM). The type locality of this subspecies is Surigao (not "Suriago" as in duPont, 1971:373), northeastern Mindanao. I have compared Rabor's Leyte male with one from Samar and one from Bucas Island, off Surigao (USNM). Measurements of these three specimens are as follows:

Wing (flat): Leyte, 63.5 mm.; Samar, 65 mm.; Bucas, 67 mm.

Culmen from forehead: Leyte, 21 mm.; Samar, 20.5 mm.;

Bucas, 20.5 mm.

The Leyte male is a first-year bird and has not yet attained the iridescent tail nor the dark wings of the definitive plumage. The Bucas male has a distinctly darker gray throat than the Samar and Leyte males collectively. This may be a seasonal difference in wear, as the Bucas bird was taken on October 4, whereas the Samar bird was collected on April 3 and the Leyte bird on May 31. Salomonsen (1953:251) compared eight specimens of *griseigularis* from unspecified localities in Mindanao with five from Samar and declared them alike. He also commented on the large size of the USNM Bucas specimen, which exceeded that of any of the Samar and Mindanao specimens he measured.

#### *Nectarinia sperata trochilus* (Salomonsen, 1953)

Collected by Everett (record overlooked by McGregor [1909]), Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwig, and Rabor 1964. One was banded at the MAPS station at Mahaplag in 1964 (McClure and Leelavit, 1972:281). Alcasid and Celestino collected nine specimens at Balinsasayao from July 5-13, 1961 (including three juveniles on July 13) and 10 at Patok from July 19-August 7 (including a juvenile on July 28). Rabor collected 50 at various localities in the Mount Lobi and Mount Kabalanti-an regions, of which 31 are in the USNM, 16 in the FMNH, and three in the DMNH.

A history of the tortured nomenclature of this species in the Philippines, including my reasons for recognizing *trochilus* rather than synonymizing it with *sperata* as was done by duPont (1971:373) following Rand (1967), can be found in Parkes, 1971c:46-49.



*Nectarinia jugularis jugularis* (Linné, 1766)

Collected by Everett, Steere, Whitehead, Holder, and Rabor 1964. Holder obtained a single male at Tacloban on September 28, 1945. Rabor collected three males and two females at Tambis for the USNM, May 2–26.

As I have stated previously (Parkes, 1965a:62), I follow Rand (1951b) in being unable to justify the use of more than one subspecific name for the highly variable populations of this species from southern Luzon to Basilan. The description of *N. j. jugularis* given by duPont (1971:375) mentions the variability in the presence or absence of a brown border to the throat patch in males, but he gives only one color (“dark yellow”) for the breast and abdomen. The name *dinagatensis* Mearns, 1905 was given to a variant in which the upper part of the breast is orange. The range of “*dinagatensis*” was extended to include Bucas (off northeastern Mindanao), Leyte, Bohol, and Panay by its author in the same paper in which he proposed a Mindanao race, *mindanensis* (Mearns, 1909a; erroneously cited as 1908 by Rand [1967:245] and duPont [1971:375]). There is no denying that the orange-breasted extreme occurs most frequently in the central islands, but individual variation precludes any consistently valid characterization of populations. Holder’s Leyte specimen in CM closely matches a series of four adult males I collected in September 1956 at Antipolo, Rizal Province, central Luzon. None of Rabor’s three males from Leyte is of the orange-breasted “*dinagatensis*” type. I do not know what Leyte material Mearns may have seen to justify his adding that island to the range of *dinagatensis*, as there were no Leyte specimens in the USNM in Mearns’s time; he presumably borrowed Everett, Steere, or Whitehead specimens. For further information, the reader is referred to Rand’s detailed analysis (1951b) of variation in this species.

*Aethopyga pulcherrima pulcherrima* Sharpe, 1876

Collected by Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino collected eight specimens at Patok from August 4–10, 1961, including a juvenile on August 5. Rabor took 33 in the Mount Lobi area (22 USNM, 11 FMNH) and 11 in the Mount Kabalanti-an area (8 USNM, 3 FMNH) between May 4 and July 2, 1964.

The description of this form by duPont (1971:382) states that the forehead of males is “metallic purplish green.” I find no green element at all in the specimens I have examined, and I would call this area an unqualified purple.

***Aethopyga shelleyi bella* Tweeddale, 1877**

Collected by Rabor 1937, Alcasid and Celestino, and Rabor 1964. The five extant Leyte specimens are unfortunately unsuitable for comparison with non-Leyte material. Alcasid and Celestino took an adult male in very heavy molt on August 11, 1961; it lacks locality data on the label but was presumably collected at Patok. Adult females in worn and *very* worn plumage, respectively, were taken at Patok on July 24 and August 5. Rabor's two specimens from the Mount Kabalanti-an area (USNM) were taken on June 14 and July 1. Both are immature males, apparently correctly identified and sexed, but rather different from each other. The July 1 specimen is decidedly grayer, less yellow on the underparts. Rand and Rabor (1960:410) compared one adult male from the Zamboanga Peninsula, Mindanao, with four from Samar (the opposite extremities of the range attributed to *bella*, which was described from Surigao); they found minor differences, too slight to warrant nomenclatorial separation.

It should be pointed out that Delacour and Mayr (1946:232) erred in characterizing *bella* as "smaller than *flavipectus*; fewer vermilion streaks on breast." The race *flavipectus* lacks vermilion streaks on the breast. The comparison is valid if *bonita* (the subspecies adjoining *bella* to the west) is substituted for *flavipectus*.

**[*Aethopyga siparaja magnifica* Sharpe, 1876]**

No specimen of this species has ever been collected on Leyte. This appears to throw some doubt on the statement by Lint and Stott (1948:46) that "for a period of three months (October–December, 1945) we observed this beautiful sunbird in most of the second-growth areas surrounding Tacloban, Leyte." It is difficult to imagine what species might have been mistaken for *A. siparaja*, but until it has been collected, it is best considered as hypothetical for Leyte. Both Holder and Bivins were collecting around Tacloban during the same period. Although their collections were small, one might have expected an attempt to obtain so striking a bird as this if it were in fact present as persistently as suggested by Lint and Stott.

Note that there is an error in the caption of plate 80 in duPont, 1971. Figures F and G, not C and D as captioned, represent *Aethopyga siparaja*.

***Arachnothera longirostra flammifera* Tweeddale, 1878**

Collected by Everett, Steere, Alcasid and Celestino, Caliwag, and Rabor 1964. Whitehead (1899:230) reported the species from Leyte but apparently did not collect it there. One was banded at the MAPS station

Alcasid and Celestino collected one specimen at Balinsasayao on at Mahaplag in 1964 (McClure and Leelavit, 1972:281).

July 10, 1961 and three at Patok on August 1 and 8 (plus one undated).

The August 1 and undated specimens are juveniles. Rabor collected 23 in the Mount Lobi and Mount Kabalanti-an areas (15 USNM, 8 FMNH), of which two are juveniles (Tambis, May 16, FMNH; Ma-alngon, May 26, USNM).

Some males from Mindanao differ from those of Leyte (type locality), Samar, and Bohol in attaining a degree of orange wash on dorsum and wing edgings not seen in those from the other islands. This is inconsistent, however, and females are inseparable; so I do not believe the Mindanao population should be formally separated from *flammifera*.

#### *Arachnothera clarae philippinensis* (Steere, 1890)

Collected by Whitehead, Rabor 1937, and Rabor 1964. Rand (1967:286) gave the range of *philippinensis* as "Samar and presumably Leyte. . . ." I have seen one of Whitehead's specimens (AMNH) and the seven collected by Rabor at Ma-alngon (4 USNM, 2 FMNH) and Paniniklan (1 USNM). These, as predicted by Rand, match Samar specimens.

### FAMILY DICAETIDAE FLOWERPECKERS

#### *Prionochilus olivaceus samarensis* Steere, 1890

Collected by Steere (overlooked by McGregor [1909]), Whitehead, Rabor 1937 and Rabor 1964. Rabor took six specimens, all but one in the Mount Lobi region, the sixth at Bulog. Four of these are now in the USNM, and one each in the FMNH and the DMNH.

#### *Dicaeum bicolor bicolor* (Bourne and Worcester, 1894)

Collected by Whitehead, Rabor 1937, Caliwag, and Rabor 1964. Rabor's FMNH series of eight was taken on Mount Kabalanti-an, June 26–July 4. The USNM material includes 11 from the same area, June 22–26, including several juveniles, plus seven taken in the Mount Lobi area, May 12–June 1.

As I have shown (Parkes, 1971c:50–52), previous treatments of this species in the literature were garbled. The Samar/Leyte/Bohol population belongs with *bicolor* of Mindanao, not with *inexpectatum* (Hartert, 1895) of Mindoro and Luzon. As indicated in my paper, Samar/Leyte/Bohol birds are slightly differentiated from those of Mindanao, both in size and color, but insufficiently so for formal nomenclatorial separation.

#### *Dicaeum australe australe* (Hermann, 1783)

Collected by Whitehead, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino collected nine specimens at Balinsasayao and two at Patok. Rabor took a total of 55 at his various 1964 localities (39 USNM, 15 FMNH, 1 DMNH). The Mount Lobi area material in the

USNM includes juveniles taken on May 7 (two), 17, 19, and 22 and on June 1.

In a family tending toward pronounced geographic variation, *D. a. australe* is surprisingly uniform over a very large range in the Philippines. The only variation I have found is a *slight* tendency for the blue-black dorsal color of males to be deeper in Luzon specimens.

***Dicaeum trigonostigma cinereigulare* Tweeddale, 1877**

Collected by Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwig, and Rabor 1964. Alcasid and Celestino collected seven specimens at Balinsasayao from July 5-15 and three at Patok from August 6-7, 1961. Rabor took no less than 89 at his various collecting localities (49 USNM, 40 FMNH) between May 3 and July 4, 1964.

There are some geographically correlated trends among populations currently united in *cinereigulare*. The AMNH specimens from Leyte match near topotypes from northern Mindanao in having less yellow, more gray on the throat than most specimens of a long (32) series from Samar, in both sexes. The Samar birds also tend to have a slight wash of greenish on the rumps of males and of yellow on those of females, reduced or lacking in Leyte birds. On the other hand, two specimens from Davao, southern Mindanao, match the Samar series, which makes no geographic sense. The question of subdivision of *cinereigulare* must remain open until larger samples from more areas of Mindanao can be compared with the excellent Samar and Leyte material.

***Dicaeum hypoleucum pontifex* Mayr, 1946**

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, Caliwig, and Rabor 1964. Only two specimens were collected by Alcasid and Celestino, a juvenile female at Balinsasayao on July 6 and an adult female at Patok on August 2, 1961. Rabor collected 33 in the Mount Lobi area (21 USNM, 12 FMNH) and nine in the Mount Kabalanti-an area (7 USNM, 2 FMNH).

***Dicaeum pygmaeum pygmaeum* (Kittlitz, 1833)**

Collected by Everett, Whitehead, Caliwig, and Rabor 1964. The Caliwig specimen was erroneously identified as *Dicaeum ignipectus* by Meyer de Schauensee and duPont (1962:169). The only unpublished Leyte specimens are a pair collected by Rabor for the USNM at Tambis on May 11.

**[*Dicaeum ignipectus* (?*bonga* Hartert, 1904)]**

I have examined the specimen in the DMNH that, as just mentioned, was reported under this name as the first record of the species for Leyte. It is a specimen of *D. p. pygmaeum*; *D. ignipectus* has yet to be recorded from Leyte.



## FAMILY ZOSTEROPIDAE WHITE-EYES

*Zosterops everetti boholensis* McGregor, 1908

Collected by Steere, Whitehead, Rabor 1937, Alcasid and Celestino, Caliwag, and Rabor 1964. Alcasid and Celestino collected five males at Patok between July 27 and August 12, 1961. Rabor obtained a fine series of 49 (27 USNM, 22 FMNH) in the Mount Lobi and Mount Kabalanti-an regions in 1964.

The Leyte population appears in most of the literature under the name *basilanica* Steere, 1890; the Caliwag specimen was so listed by Meyer de Schauensee and duPont (1962:171), although they called attention to differences between it and their Mindanao series. For the evidence justifying the association of the Leyte population with *boholensis*, see Parkes, 1971c:56.

## FAMILY PLOCEIDAE WEAVERBIRDS

*Passer montanus saturatus* Stejneger, 1885

A juvenile male collected by Rabor at Santa Cruz for the USNM on June 14, 1964 is the first record for Leyte. This specimen is an exact match for a juvenile of similar age from Japan in the USNM and is too richly colored for *malaccensis*, the subspecies introduced around Cebu City (Parkes, 1959). The species has therefore apparently spread to Leyte from Luzon, where *saturatus* is the introduced race.

## FAMILY ESTRILDIDAE MANNIKINS, GRASSFINCHES

*Lonchura leucogastra manueli* Parkes, 1958

Collected by Whitehead, Rabor 1937, Alcasid and Celestino, and Rabor 1964. A single specimen was collected by Alcasid and Celestino at Patok, 36 were collected by Rabor in his two major areas, and four were banded at the MAPS station at Mahaplag in 1966 (McClure and Leelavit, 1972:281).

No specimens from Leyte had been seen at the time of the description of *manueli*. The AMNH specimen and the 10 in the FMNH match *manueli* in dark dorsal coloration, but they average somewhat paler brown (less blackish) on the breast, an approach to the race *everetti* (Tweeddale, 1877) to the north.

*Lonchura malacca jagori* (Martens, 1866)

Collected by Everett, Steere, Bartsch, Bivins, and Rabor 1964. In addition, one was banded at the MAPS station at Mahaplag in 1964 (McClure and Leelavit, 1972:281). Previously unpublished records are those of Bivins, who collected a male at Palo in December (exact date not given) 1945 and Rabor, who took six at Tambis from May 3-20, 1964

for the FMNH and 20 at various localities in the Mount Lobi and Mount Kabalanti-an areas for the USNM.

### SUMMARY

The avifaunal relationships and the history of bird collecting on the Visayan island of Leyte, Philippines, are reviewed. Acceptable sight records or specimen records exist for 180 species and four additional subspecies on Leyte. Data are presented for all hitherto unpublished records from Leyte known to the author, and reference is made to previous records. Taxonomic notes are given for many species. The first records for Leyte are presented for the following (some of these have been mentioned in the author's taxonomic papers):

- Gorsachius goesagi*
- Spizaetus philippensis*
- Charadrius dubius curonicus*
- Charadrius alexandrinus dealbatus*
- Sterna fuscata serrata* (first Philippine record)
- Columba vitiensis griseogularis*
- Streptopelia chinensis tigrina*
- Cuculus fugax pectoralis*
- Cuculus micropterus micropterus*
- Cuculus saturatus horsfieldi*
- Chrysococcyx xanthorhynchus amethystinus*
- Collocalia esculenta marginata*
- Cypsiurus batasiensis pallidior*
- Halcyon winchelli nigrorum*
- Pitta steerii coelestis*
- Hirundo rustica gutturalis*
- Hirundo rustica saturata*
- Megalurus timoriensis alopex*
- Cisticola juncidis tinnabulans*
- Locustella fasciolata*
- Phylloscopus borealis hylebata*
- Phylloscopus borealis transbaicalicus*
- Rhipidura javanica nigritorquis*
- Muscicapa griseisticta*
- Passer montanus saturatus*

Two new subspecies are described: *Accipiter virgatus quagga* (from Mindanao) and *Rhabdornis inornatus leytensis*.

Two species, *Cuculus canorus* and *Aethopyga siparaja*, have been recorded from Leyte on insufficient evidence and are considered hypothetical for the island.

One species, *Dicaeum ignipectus*, was erroneously recorded from Leyte based on misidentification of a specimen of *D. pygmaeum*.

The Philippine status of one species is changed: Philippine records of *Egretta garzetta* are assigned to *E. g. garzetta* rather than to *E. g. nigripes* as heretofore in the Philippine literature; the latter does not occur in the Philippines.

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